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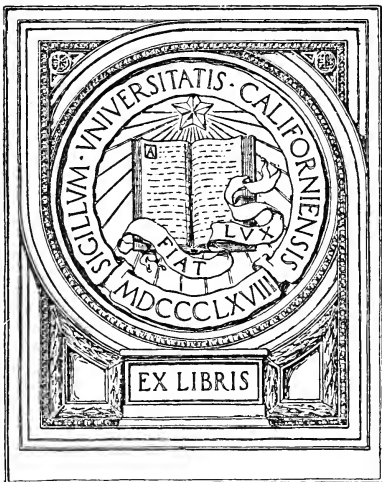


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ELEMENTS OF
PLANE TRIGONOMETRY
WITH COMPLETE TABLES
HEATON AND INGOLD

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LOGARITHMIC AND
TRIGONOMETRIC TABLES

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LOGARITHMIC AND TRIGONOMETRIC TABLES

PREPARED UNDER THE DIRECTION OF

EARLE RAYMOND HEDRICK

TO ACCOMPANY THE

ELEMENTS OF PLANE TRIGONOMETRY

BY

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EXPLANATION OF THE TABLES *

**TABLE I. FIVE-PLACE COMMON LOGARITHMS OF
NUMBERS FROM 1 TO 10 000**

1. Powers of 10. Consider the following table of values of powers of 10:

| COLUMN A | | COLUMN B | COLUMN A | | COLUMN B |
|-----------|---|-------------|-----------|---|------------|
| 10^1 | = | 10 | 10^0 | = | 1. |
| 10^2 | = | 100 | 10^{-1} | = | .1 |
| 10^3 | = | 1000 | 10^{-2} | = | .01 |
| 10^4 | = | 10000 | 10^{-3} | = | .001 |
| 10^5 | = | 100000 | 10^{-4} | = | .0001 |
| 10^6 | = | 1000000 | 10^{-5} | = | .00001 |
| 10^7 | = | 10000000 | 10^{-6} | = | .000001 |
| 10^8 | = | 100000000 | 10^{-7} | = | .0000001 |
| 10^9 | = | 1000000000 | 10^{-8} | = | .00000001 |
| 10^{10} | = | 10000000000 | 10^{-9} | = | .000000001 |

This table may be used for multiplying or dividing powers of 10, by means of the rules $10^a \cdot 10^b = 10^{a+b}$, $10^a \div 10^b = 10^{a-b}$. Thus, to multiply 1000 by 100,000, add the exponent of 10 in column A opposite 1000 to the exponent of 10 opposite 100,000: $3 + 5 = 8$; and look for the number in column B opposite 10^8 , *i.e.* 100,000,000. Similarly $1,000,000 \times .0001 = 100$, since $6 + (-4) = 2$.

To divide 1,000,000 by 100, from the exponent of 10 opposite 1,000,000 subtract the exponent of 10 opposite 100; $6 - 2 = 4$; and look for the number opposite 10^4 , *i.e.* 10,000. Similarly $.001 \div 1,000,000 = .000000001$, since $-3 - 6 = -9$. To find the 4th power of 100, multiply the exponent of 10 opposite 100 by 4: $4 \times 2 = 8$, and look for the number opposite 10^8 , *i.e.* 100,000,000. Likewise $(.001)^3 = .000000001$, since $3 \times (-3) = -9$. To find the cube root of 1,000,000,000, divide the exponent of 10 opposite 1,000,000,000 by 3, $9 \div 3 = 3$, and look for the number opposite 10^3 .

* This Explanation, written to accompany the five-place tables, may be used also for the four-place tables by omitting the last figure in each example in a manner obvious to the teacher.

2. Common Logarithms. The exponent of 10 in any row of column *A* is called the common logarithm* of the number opposite in column *B*; thus $\log 10 = 1$, $\log 100 = 2$, $\log 1000 = 3$, etc.; $\log 1 = 0$, $\log .1 = -1$; $\log .01 = -2$, $\log .001 = -3$, etc. In general, if $10^l = n$, *l* is called the *common logarithm of n*, and is denoted by $\log n$.

3. Fundamental Principles. Logarithms are useful in reducing the labor of performing a series of operations of multiplication, division, raising to powers, extracting roots, as above; they have no necessary connection with trigonometry, since all the operations could be performed without them; but they are a great labor-saving device in arithmetical computations. They do not apply to addition and subtraction.

The principles of their application are stated as follows:

I. *The logarithm of a product is equal to the sum of the logarithms of the factors:* $\log ab = \log a + \log b$. This follows from the fact that if $10^l = a$ and $10^L = b$, $10^{l+L} = a \cdot b$. In brief: *to multiply, add logarithms.*

II. *The logarithm of a fraction is equal to the difference obtained by subtracting the logarithm of the denominator from the logarithm of the numerator:* $\log (a/b) = \log a - \log b$. For, if $10^l = a$ and $10^L = b$, then $10^{l-L} = a \div b$. In brief: *to divide, subtract logarithms.*

III. *The logarithm of a power is equal to the logarithm of the base multiplied by the exponent of the power:* $\log a^b = b \log a$. This follows from the fact that if $10^l = a$, then $10^{lb} = a^b$.

IV. *The logarithm of a root of a number is found by dividing the logarithm of the number by the index of the root:* $\log \sqrt[b]{a} = (\log a)/b$. This follows from the fact that if $10^l = a$, then $10^{l/b} = a^{1/b} = \sqrt[b]{a}$.

Corollary of II. *The logarithm of the reciprocal of a number is the negative of the logarithm of the number:* $\log (1/a) = -\log a$, since $\log 1 = 0$.

4. Characteristic and Mantissa. It is shown in algebra that every real positive number has a real common logarithm, and that if *a* and *b* are any two real positive numbers such that $a < b$, then $\log a < \log b$. Neither zero nor any negative number has a real logarithm.

An inspection of the following table, which is a restatement of a part

| <i>a</i> | 1 | 10 | 100 | 1000 | 10000 | 100000 | 1000000 | 10000000 |
|----------|---|----|-----|------|-------|--------|---------|----------|
| $\log a$ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

* Common logarithms are exponents of the base 10; other systems of logarithms have bases different from 10; Napierian logarithms (see Table VII, p. 112) have a base denoted by *e*, an irrational number whose value is approximately 2.71828. When it is necessary to call attention to the base, the expression $\log_{10} n$ will mean common logarithm of *n*; $\log_e n$ will mean the Napierian logarithm, etc.; but in this book $\log n$ denotes $\log_{10} n$ unless otherwise explicitly stated.

of the table of § 1, p. v, shows that

the logarithm of every number between 1 and 10 is a proper fraction,

the logarithm of every number between 10 and 100 is 1 + a fraction,

the logarithm of every number between 100 and 1000 is 2 + a fraction ; and so on. It is evident that the logarithm of every number (not an exact power of 10) consists of a whole number + a fraction (usually written as a decimal). The whole number is called the **characteristic** ; the decimal is called the **mantissa**. The characteristic of the logarithm of any number greater than 1 may be determined as follows :

RULE I. *The characteristic of any number greater than 1 is one less than the number of digits before the decimal point.*

The following table, which is taken from § 1, p. v, shows that

| a | .0000001 | .000001 | .00001 | .0001 | .001 | .01 | .1 | 1 |
|----------|----------|---------|--------|-------|------|-----|-----|---|
| $\log a$ | - 7 | - 6 | - 5 | - 4 | - 3 | - 2 | - 1 | 0 |

the logarithm of every number between .1 and 1 is $-1 +$ a fraction,

the logarithm of every number between .01 and .1 is $-2 +$ a fraction,

the logarithm of every number between .001 and .01 is $-3 +$ a fraction ; and so on.

Thus the characteristic of every number between 0 and 1 is a negative whole number ; there is a great practical advantage, however, in computing, to write these characteristics as follows : $-1 = 9 - 10$, $-2 = 8 - 10$, $-3 = 7 - 10$, etc. *E.g.* the logarithm of .562 is $-1 + .74974$, but this should be written $9.74974 - 10$; and similarly for all numbers less than 1.

RULE II. *The characteristic of a number less than 1 is found by subtracting from 9 the number of ciphers between the decimal point and the first significant digit, and writing -10 after the result.*

Thus, the characteristic of $\log 845$ is 2 by Rule I ; the characteristic of $\log 84.5$ is 1 by (I) ; of $\log 8.45$ is 0 by (I) ; of $\log .845$ is $9 - 10$ by (II) ; of $\log .0845$ is $8 - 10$ by (II).

An important consequence of what precedes is the following :

To move the decimal point in a given number one place to the right is equivalent to adding one unit to its logarithm, because this is equivalent to multiplying the given number by 10. Likewise, to move the decimal point one place to the left is equivalent to subtracting one unit from the logarithm. Hence, moving the decimal point any number of places to the right or left does not change the mantissa but only the characteristic.*

Thus, 5345, 5.345, 534.5, .05345, 534500 all have the same mantissa.

* Another rule for finding the characteristic, based on this property, is often useful: if the decimal point were just after the first significant figure, the characteristic would be zero ; start at this point and count the digits passed over to the left or right to the actual decimal point ; the number obtained is the characteristic, except for sign ; the sign is negative if the movement was to the left, positive if the movement was to the right.

5. Use of the Table. To use logarithms in computation we need a table arranged so as to enable us to find, with as little effort and time as possible, the logarithms of given numbers and, vice versa, to find numbers when their logarithms are known. Since the characteristics may be found by means of Rules I and II, p. vii, only mantissas are given. This is done in Table I. Most of the numbers in this table are irrational, and must be represented in the decimal system by approximations. A five-place table is one which gives the values correct to five places of decimals.

PROBLEM 1. *To find the logarithm of a given number.* First, determine the characteristic, then look in the table for the mantissa.

To find the mantissa in the table when the given number (neglecting the decimal point) consists of four, or less, digits (exclusive of ciphers at the beginning or end), look in the column marked *N* for the first three digits and select the column headed by the fourth digit: the mantissa will be found at the intersection of this row and this column. Thus to find the logarithm of 72050, observe first (Rule I) that the characteristic is 4. To find the mantissa, fix attention on the digits 7205; find 720 in column *N*, and opposite it in column 5 is the desired mantissa, .85763; hence $\log 72050 = 4.85763$. The mantissa of .007826 is found opposite 782 in column 6 and is .89354; hence $\log .007826 = 7.89354 - 10$.

6. Interpolation. If there are more than four significant figures in the given number, its mantissa is not printed in the table; but it can be found approximately by assuming that the mantissa varies as the number varies in the small interval not tabulated; while this assumption is not strictly correct, it is sufficiently accurate for use with this table.

Thus, to find the logarithm of 72054 we observe that $\log 72050 = 4.85763$ and that $\log 72060 = 4.85769$. Hence a change of 10 in the number causes a change of .00006 in the mantissa; we assume therefore that a change of 4 in the number will cause, approximately, a change of $.4 \times .00006 = .00002$ (dropping the sixth place) in the mantissa; and we write $\log 72054 = 4.85763 + .00002 = 4.85765$.

The difference between two successive values printed in the table is called a **tabular difference** (.00006, above). The proportional part of this difference to be added to one of the tabular values is called the **correction** (.000002, above), and is found by multiplying the tabular difference by the appropriate fraction (.4, above). These proportional parts are usually written *without the zeros*, and are printed at the right-hand side of each page, to be used when mental multiplications seem uncertain.

Example 1. Find the logarithm of .0012647. Opposite 126 in column 4 find .10175; the tabular difference is 34 (zeros dropped); $.7 \times 34$ is given in the margin as 24; this correction added gives .10199 as the mantissa of .0012647; hence $\log .0012647 = 7.10199 - 10$.

Example 2. Find the logarithm of 1.85643. Opposite 185 in column 6 find .26858; tabular difference 23; $.43 \times 23$ is given in the margin as 10; this correction added gives .26868 as the mantissa of 1.85643; hence $\log 1.85643 = 0.26868$.

7. Reverse Reading of the Table. PROBLEM 2. *To find the number when its logarithm is known.* First, fixing attention on the mantissa only, find from the table the number having this mantissa, then place the decimal point by means of the two following rules :*

RULE III. *If the characteristic of the logarithm is positive (in which case the mantissa is not followed by -10), begin at the left, count digits one more than the characteristic, and place the decimal point to the right of the last digit counted.*

RULE IV. *If the characteristic is negative (in which case the mantissa will be preceded by a number n and followed by -10 †), prefix $9 - n$ ciphers, and place the decimal point to the left of these ciphers.*

Example 1. Given $\log x = 1.22737$, to find x .

Since the mantissa is 22737, we look for 22 in the first column and to the right and below for 737, which we find in column 8 opposite 168. The number is therefore 1688. Since the characteristic is +1, we begin at the left, count 2 places, and place the point; hence $x = 16.88$.

Example 2. Given $\log x = 2.24912$, to find x .

This mantissa is not found in the table; in such cases we interpolate as follows: select the mantissa in the table next less than the given mantissa, and write down the corresponding number; here, 1774; the tabular difference is 25; the actual difference (found by subtracting the mantissa of 1774 from the given mantissa) is 17; hence the proportionality factor is $17/25 = .68$ or $.7$ (to the nearest tenth). Since moving the decimal point does not affect the mantissa, it follows that the digits in the required number are 17747 (to five places). The characteristic 2 directs to count 3 places from the left; hence $x = 177.47$.

RULE. *In general, when the given mantissa is not found in the table, write down four digits of the number corresponding to the mantissa in the table next less than the given mantissa, determine a fifth figure by dividing the actual difference by the tabular difference, and locate the decimal point by means of the characteristic.*

8. Illustrations of the Use of Logarithms in Computation.

Example 1. To find $832.43 \times 302.43 \times 16.725 \times .000178$.

$$\begin{array}{rcl} \log 832.43 & = & 2.92034 \\ \log 302.43 & = & 2.48062 \\ \log 16.725 & = & 1.22337 \\ \log .000178 & = & 6.25042 - 10 \text{ (add)} \\ \hline \log x & = & 2.87475 \qquad \text{whence } x = 749.47. \end{array}$$

Example 2. To find $461.29 \div 21.4$.

$$\begin{array}{rcl} \log 461.29 & = & 2.66397 \\ \log 21.4 & = & 1.33041 \qquad \text{(subtract)} \\ \hline \log x & = & 1.33356 \qquad \text{whence } x = 21.556. \end{array}$$

* Another convenient form of these rules is as follows: if the characteristic were zero, the decimal point would fall just after the first significant figure; move the decimal point one place to the right for each positive unit in the characteristic, one place to the left for each negative unit in the characteristic.

† In rare cases -20 , -30 , etc.

Illustration of Cologarithms

Example 3. To find $\frac{48.25 \times 132.76 \times .1745}{1415.3}$.

We might add the logarithms of the factors in the numerator and from this sum subtract the logarithm of the denominator; but we can shorten the operation by *adding* the negative of the logarithm of the denominator instead of subtracting the logarithm itself. The negative of the logarithm of a number (when written in convenient form for computation) is called the **cologarithm** of the number. We may find the negative of any number by subtracting it from zero, and it is convenient in logarithmic computation to write zero in the form $10.00000 - 10$. Thus the negative of 2.17 is $7.83 - 10$; the negative of 1.1432 is 8.8568 . Remembering that the cologarithm of a number is its negative we have the following rule:

To find the cologarithm of a number begin at the left of its logarithm (including the characteristic) and subtract each digit from 9, except the last, which subtract from 10; if the logarithm has not -10 after the mantissa, write -10 after the result; if the logarithm has -10 after the mantissa, do not write -10 after the result.*

By this rule the cologarithm of a number can be read directly out of the table without taking the trouble to write down the logarithm. Attention must be given not to forget the characteristic. The use of the cologarithm is governed by the principle:

Adding the cologarithm is equivalent to subtracting the logarithm.

Returning to the computation of the given problem we should write:

$$\begin{aligned}\log 48.25 &= 1.68350 \\ \log 132.76 &= 2.12307 \\ \log .1745 &= 9.24180 - 10 \\ \text{colog } 1415.3 &= 6.84915 - 10 \quad (\text{add}) \\ \log x &= 9.59752 - 10 \quad \text{whence } x = .7898\end{aligned}$$

Example 4. Find the 5th power of 7.26842

$$\begin{aligned}\log 7.26842 &= 0.86144 \\ &\quad \quad \quad \frac{5}{} \quad (\text{multiply}) \\ \log x &= 4.30720 \quad \text{whence } x = 20286.\end{aligned}$$

Example 5. Find the 4th root of .007564

$$\log .007564 = 7.87875 - 10.$$

(It is convenient to have, after the division by 4, -10 after the mantissa; hence before the division we add $30.00000 - 30$.)

$$\begin{aligned}\log .007564 &= 37.87875 - 40 \quad (\text{divide by 4}), \\ \log x &= 9.46969 - 10 \quad \text{whence } x = .2949\end{aligned}$$

Example 6. Find the value of $\sqrt[3]{\frac{(34.55)(-856.7)(-43.5)}{(98.75)(-186.3)}}$.

We have no logarithms of negative numbers, but an inspection of this problem shows that the result will be negative and numerically the same as though all the factors were positive; hence we proceed as follows:

$$\begin{aligned}\log 34.55 &= 1.53845 \\ \log 856.7 &= 2.93283 \\ \log 43.5 &= 1.63849 \\ \text{colog } 98.75 &= 8.00546 - 10 \\ \text{colog } 186.3 &= 7.72979 - 10 \quad (\text{add}) \\ &\quad \quad \quad 1.84502 \quad (\text{divide by 3}) \\ \log (-x) &= 0.61501 \quad \text{whence } x = -4.121\end{aligned}$$

* If the logarithm ends in one or more ciphers, the last significant digit is to be understood here.

9. The Slide Rule. A slide rule consists of two pieces of the shape of a ruler, one of which slides in grooves in the other; each is marked

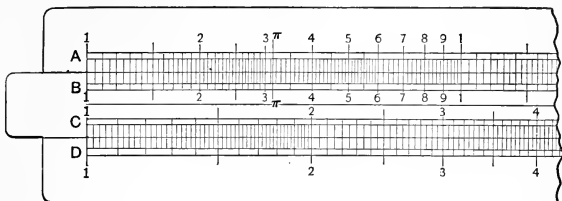


FIG. 1

(Fig. 1) in divisions (scale *A* and scale *B*) whose distances from one end are proportional to the logarithms of the numbers marked on them.

It follows that the sum of two logarithms can be obtained by simply

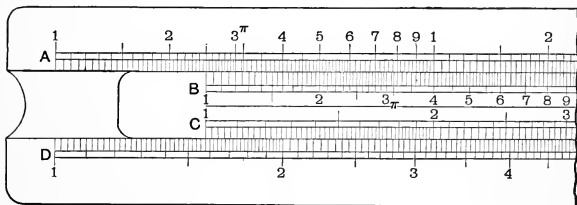


FIG. 2

sliding one rule along the other; thus if (see Fig. 2) the point marked 1 on scale *B* is set opposite the point marked 2.5 on scale *A*, the point on scale *B* marked 2 will be opposite the point on scale *A* marked 5, since $\log 2.5 + \log 2 = \log 5$. Likewise, opposite 3 (scale *B*) read 7.5 (scale *A*); opposite 2.5 (*B*) read 6.25 (*A*), *i.e.* $2.5 \times 2.5 = 6.25$.

Other multiplications can be performed in an analogous manner. Divisions can be performed by reversing the operation. Thus, if 4.5 (*B*) be set on 11.25 (*A*), then 1 (*B*) will be opposite 2.5 (*A*), as in Fig. 2.

Scales *C* and *D* are made just twice as large as scales *A* and *B*. It follows that the numbers marked on *C* and *D* are the square roots of the numbers marked opposite them on scales *A* and *B*.

For a description of more elaborate slide rules, and full directions for use, see the catalogues of instrument makers.

The student should use a slide rule in **checking results**; practice may be had by checking many of the results of the following list of exercises.

10. Graphical Representation of Interpolation. In the process of interpolation, values are inserted as if the logarithm varied directly as the number, between the two nearest values given in the table.

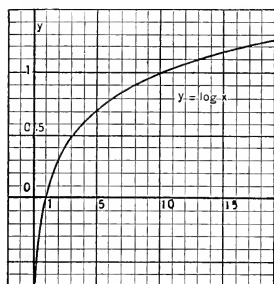


FIG. 3

Graphically, this means that the interpolation is made as if the curve $y = \log x$ consisted of a straight line segment.

If the values of x and $y = \log x$ are plotted in the usual manner, the curve obtained is that shown in Fig. 3. The values of x and y given in the table fall so close to each other on this figure that the interpolating line cannot be shown. But if the portion of the figure near $x = 2$, $y = .30103$ be enlarged in the ratio 1 to 10000 on the x -axis

and 1 to 1000 on the y -axis, the resulting figure is as shown in Fig. 4. The point A shows $x = 2.001$, $y = .30125$; the point B shows $x = 2.002$, $y = .30146$; if we draw the straight line ANB , it is clear that the straight line differs from the true curve AMB , but the difference is very slight.

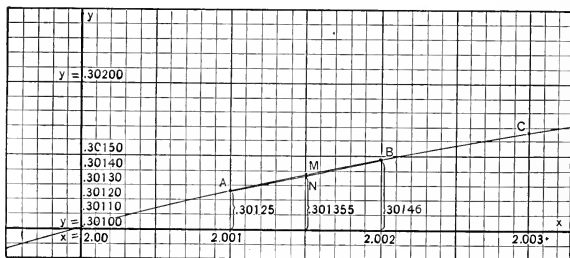


FIG. 4

Thus, the value of y given by interpolation for $x = 2.0015$ is shown at N ; it is $y = .301355$. The true value of $\log 2.0015$, found from a higher place table is really $.3013556$; but either of these results would be written $.30136$, so that the error made in using the straight line ANB in place of the curve AMB does not affect the fifth place of decimals.

EXERCISES

1. Find the values of each of the following products by logarithms; check each computation by a multiplication of round numbers.

- (a) 3.1416×205.6 . (b) 64.32×2780.5 . (c) $32.16 \times (-44.52)$.
 (d) $231.6 \times .0024$. (e) $(-.003714) \times (1206.5)$. (f) $.963752 \times .0010746$.

2. Substitute \div for \times in each of the parts of Ex. 1, and then find the indicated quotient in each case by logarithms.

3. Find the value of each of the following expressions by logarithms; check each computation.

- (a) $\frac{3.1416 \times 2109.4}{732.56 \times 23.5}$. (b) $\frac{725 \times (-3.472)}{6805.4 \times .0126}$. (c) $(3.1416)^2$. (d) $(1.728)^5$.
 (g) $(-27.345)^3$. (h) $(.000165)^{1/7}$. (i) $(3.1416)(2.34)^3 \div (.006)^{1/3}$.

4. Find the area of a circle whose radius is 47.5 ft.

5. Find the area of a rectangle whose base is 231.75 and whose height is 514.25.

6. Find the area and the volume of a sphere whose radius is 4.6152.

7. Given 1 cm. = .3937 in., reduce 4752.6 cm. to inches.

8. Reduce 675 sq. cm. to square inches.

9. Given 365.242 mean solar days = 366.242 sidereal days, express 1 mean solar day in terms of sidereal days; express 1 sidereal day in terms of mean solar days.

10. The amount a of a principal p at compound interest of rate r for n years is given by the formula: $a = p(1+r)^n$. Find a if $p = 12,753$, $r = .06$, and $n = 5$.

11. Evaluate each of the following expressions:

- (a) $\sqrt[3]{3}$. $\sqrt[3]{5}$. $\sqrt[3]{7}$. (c) $\frac{5.62 \times (4.8)^{1.5}}{(.634)^{2.3}}$. (d) $\frac{\sqrt[3]{10000}}{(49.52)^{4.6}}$.
 (b) $5^{2/3} \div (12.7)^{3/2}$.

II. FIVE-PLACE TABLE OF THE ACTUAL VALUES OF THE TRIGONOMETRIC FUNCTIONS OF ANGLES

11. Direct Readings. This table gives the sines, cosines, tangents, and cotangents of the angles from 0° to 45° ; and by a simple device, indicated by the printing, the values of these functions for angles from 45° to 90° may be read directly from the same table. For angles less than 45° read down the page, the degrees being found at the top and the minutes on the left; for angles greater than 45° read up the page, the degrees being found at the bottom and the minutes on the right.

To find a function of an angle (such as $15^\circ 27'.6$, for example) which does not reduce to an integral number of minutes, we employ the process of interpolation. To illustrate, let us find $\tan 15^\circ 27'.6$. In the table we find $\tan 15^\circ 27' = .27638$ and $\tan 15^\circ 28' = .27670$; we know that $\tan 15^\circ 27'.6$ lies between these two numbers. The process of interpolation depends on the assumption that between $15^\circ 27'$ and $15^\circ 28'$ the tangent of the angle varies directly as the angle; while this assumption is not strictly true, it gives an approximation sufficiently accurate for a five-place table. Thus we should assume that $\tan 15^\circ 27'.5$ is halfway between .27638 and .27670. We may state the problem as follows: An increase of $1'$ in the angle increases the tangent .00032; assuming that the tangent

varies as the angle, an increase of $0'.6$ in the angle will increase the tangent by $.6 \times .00032 = .00019$ (retaining only five places); hence

$$\tan 15^\circ 27'.6 = .27638 + .00019 = .27657.$$

The difference between two successive values in the table is called, as in Table I, the *tabular difference* (.00032 above). The proportional part of the tabular difference which is used is called the *correction* (.00019 above), and is found by multiplying the tabular difference by the appropriate fraction of the smallest unit given in the table.

Example 1. Find $\sin 63^\circ 52'.8$.

We find

$$\sin 63^\circ 52' = .89777;$$

$$\text{tabular difference} = .00013 \text{ (subtracted mentally from the table),}$$

$$\text{correction} = .8 \times .00013 = .00010 \text{ (to be added).}$$

Hence

$$\sin 63^\circ 52'.8 = .89787.$$

Example 2. Find $\tan 37^\circ 45'.4$.

$$\tan 37^\circ 45' = .77428;$$

$$\text{dropping useless zeros, tabular difference} = 47; .4 \times 47 = 19 \text{ (to be added).}$$

Hence

$$\tan 37^\circ 45'.4 = .77447.$$

Example 3. Find $\cos 65^\circ 24'.8$.

$$\cos 65^\circ 24' = .41628;$$

$$\text{tabular difference} = 26; .8 \times 26 = 21$$

(to be subtracted because the cosine decreases as the angle increases).

Hence

$$\cos 65^\circ 24'.8 = .41607.$$

Example 4. Find $\text{ctn } 32^\circ 18'.5$.

$$\text{ctn } 32^\circ 18' = 1.5818;$$

$$\text{tabular difference} = 10; .5 \times 10 = 5 \text{ (to be subtracted).}$$

Hence

$$\text{ctn } 32^\circ 18'.5 = 1.5813.$$

RULE. To find a trigonometric function of an angle by interpolation: select the angle in the table which is next smaller than the given angle, and read its sine (cosine or tangent or cotangent as the case may be) and the tabular difference. Compute the correction as the proper proportional part of the tabular difference. In case of sines or tangents **add** the correction; in case of cosines or cotangents, **subtract** it.

12. Reverse Readings. Interpolation is also used in finding the angle when one of its functions is given.

Example 1. Given $\sin x = .32845$, to find x .

Looking in the table we find the sine which is next less than the given sine to be .32832, and this belongs to $19^\circ 10'$. Subtract the value of the sine selected from the given sine to obtain the actual difference = .00013; note that the tabular difference = .00027. The actual difference divided by the tabular difference gives the correction = $13/27 = .5$ as the decimal of a minute (to be added). Hence $x = 19^\circ 10'.5$.

Example 2. Given $\cos x = .28432$, to find x .

The cosine in the table next less than this is .28429 and belongs to $73^\circ 29'$; the tabular difference is 28; the actual difference is 3; correction = $3/28 = .1$ (to be subtracted). Hence $x = 73^\circ 28'.9$.

Example 3. Given $\tan x = 2.8573$, to find x .

The tangent in the table next less than this is 2.8556 and belongs to $70^\circ 42'$; the tabular difference is 26; the actual difference is 17; correction $17/26 = .7$ (to be added). Hence $x = 70^\circ 42'.7$.

RULE. *To find an angle when one of its trigonometric functions is given : select from the table the same named function which is next less than the given function, noting the corresponding angle and the tabular difference ; compute the actual difference (between the selected value of the function and the given value) and divide it by the tabular difference ; this gives the correction which is to be added if the given function is sine or tangent, and to be subtracted if the given function is cosine or cotangent.*

III. FIVE-PLACE COMMON LOGARITHMS OF THE TRIGONOMETRIC FUNCTIONS

13. Use of the Table. If it is required to find the numerical value of $x = 27.85 \times \sin 51^\circ 27'$, we may apply logarithms as follows :

$$\begin{aligned}\log 27.85 &= 1.44483. \\ \log \sin 51^\circ 27' &= 9.89324 - 10 \text{ (add).} \\ \log x &= \overline{1.33807} \qquad x = 21.78\end{aligned}$$

The only new idea here is the method of finding $\log \sin 51^\circ 27'$, which means the logarithm of the sine of $51^\circ 27'$. The most obvious way is to find in Table I, $\sin 51^\circ 27' = .78206$, and then to find in Table II, $\log .78206 = 9.89324 - 10$, but this involves consulting two tables. To avoid the necessity of doing this, Table III gives the logarithms of the sines, cosines, tangents, and cotangents. The arrangement and the principles of interpolation are similar to those given on p. viii for Table I. The student should note carefully that Table III does not give the sines, cosines, etc., of angles, but rather their logarithms ; also that the sines and cosines of all acute angles, the tangents of all acute angles less than 45° and the cotangents of all acute angles greater than 45° are proper fractions, and their logarithms end with -10 , which is not printed in the table, but which should be written down whenever such a logarithm is used.

Example 1. Find $\log \sin 68^\circ 25'.4$.

On the page having 68° at the bottom, and in the row having $25'$ on the right find $\log \sin 68^\circ 25' = 9.96843 - 10$; the tabular difference is 5; $.4 \times 5$ is given in the margin as 2; this is the correction to be added, giving $\log \sin 68^\circ 25'.4 = 9.96845 - 10$.

(In case of sine and tangent *add* the correction.)

Example 2. Find $\log \cos 48^\circ 39'.4$.

$$\log \cos 48^\circ 39' = 9.81998 - 10, \text{ tabular difference } 15.$$

$$.4 \times 15 = 6 \text{ (subtract) therefore } \log \cos 48^\circ 39'.4 = 9.81992 - 10.$$

(In case of cosine and cotangent, subtract the correction.)

Example 3. Given $\log \tan x = 0.77663$, to find x .

The logarithmic tangent in Table III next less than the given one is 0.77639 and belongs to $80^\circ 30'$; the actual difference is 24; the tabular difference is 75; hence the correction is $24/75 = .3$ (add); hence $x = 80^\circ 30'.3$.

Example 4. Given $\log \cos x = 9.72581 - 10$, to find x .

The logarithmic cosine next less than the given one is $9.72562 - 10$ and belongs to $57^\circ 58'$; the actual difference is 19; the tabular difference is 20; hence the correction is $19/20 = 1.0$ (to the nearest tenth); (subtract); hence $x = 57^\circ 52'.0$.

In finding $\log \operatorname{ctn} \alpha$ for any angle α , note that $\log \operatorname{ctn} \alpha = -\log \tan \alpha$, since $\operatorname{ctn} \alpha = 1/\tan \alpha$. Hence *the tabular differences for $\log \operatorname{ctn}$ are precisely the same as those for $\log \tan$ throughout the table, but taken in reversed order.* Likewise, $\log \sec \alpha = -\log \cos \alpha$, $\log \csc \alpha = -\log \sin \alpha$; hence $\log \sec \alpha$ and $\log \csc \alpha$ are omitted.

For angles near 0° or near 90° , the interpolations are not very accurate if the differences are large. A special process, called *logarithmic interpolation*, is given on p. 45, for angles below 3° or above 87° .

IV-V. RADIAN MEASURE

14. Computations in Radian Measure. The reduction of degrees to radians is facilitated by Table IV — *Conversion of Degrees to Radians*.

The values of $\sin x$, $\cos x$, $\tan x$, are stated for every angle x from 0.00 radians to 1.60 radians at intervals of .01 radian in Table V — *Trigonometric Functions in Radian Measure*.

The reduction of radians to degrees can be performed directly by Table V; or, for greater accuracy, by the supplementary Table Va.

VI. POWERS—ROOTS—RECIPROCAL

15. Arrangement. This table is arranged so that the square, cube, square root, cube root, or reciprocal can be read directly to five decimal places for any number n of three significant figures. To attain this, not only n^2 , n^3 , \sqrt{n} , $\sqrt[3]{n}$, $1/n$, but also $\sqrt{10n}$, $\sqrt[3]{10n}$, $\sqrt[3]{100n}$ are printed on every page. All values have been carefully recomputed and checked.

Thus to find $\sqrt{1.17}$, read in \sqrt{n} column the result: 1.08167. To find $\sqrt{11.7}$, read in the same line, in $\sqrt{10n}$ column the result: 3.42053. To find $\sqrt{117}$, read 10 times the entry in \sqrt{n} column, since $\sqrt{117} = 10\sqrt{1.17}$.

Similarly, $\sqrt[3]{1.17} = 1.05373$ from $\sqrt[3]{n}$ column; $\sqrt[3]{11.7} = 2.27019$ from the same line in $\sqrt[3]{10n}$ column; $\sqrt[3]{117} = 4.89097$ from the same line in $\sqrt[3]{100n}$ column.

The effect of a change in the decimal point in n^2 , n^3 , and $1/n$ is only to shift the decimal point in the result, without altering the digits printed.

16. Uses. One principal use of this table in Trigonometry is to make the *Pythagorean Theorem* and the *Law of Cosines* practicable as formulas for actual computation, in an obvious manner.

For mensuration formulas, etc., all the entries are very convenient.

VII. NAPIERIAN OR NATURAL LOGARITHMS

17. The Base e . — Natural Logarithms. The number $e = 2.7182818 \dots$ is called the **natural base** of logarithms. The logarithms of numbers to this base are given in Table VII at intervals of .01 from 0.01 to 10.09, and at unit intervals from 10 to 409. The fundamental relation $\log_e n = \log_e 10 \times \log_{10} n$ enables us to transfer from the base 10 to the base e , or conversely; where $\log_e 10 = 2.30258509$.

A — B — C. FOUR-PLACE TABLES

18. Four-place Tables. These are duplicates of the preceding five-place tables, reduced to four places, and with larger intervals between the tabulations. The value of such four-place tables consists in the greater speed with which they can be used, in case the degree of accuracy they afford is sufficient for the purpose in hand.

A. Logarithms of Numbers. The only special feature of this table is that *the proportional parts are printed for every tenth in every row*; hence the logarithm of any number of *four* significant figures can be read directly, by a mental addition of the proportional part corresponding to the last figure. There may be an error of 1 in the last place in the result.

B. Antilogarithms. Attention is called to the table of antilogarithms, in which the *numbers* corresponding to *given logarithms* are tabulated. This table, together with the accompanying four-place logarithm table, will be found to facilitate approximate calculations to a marked degree, especially when great accuracy is not necessary. Thus these tables are convenient in *checking* results found otherwise. The proportional parts are stated in the right-hand margin for each row separately; hence the antilogarithm of a number of four significant figures can be read almost immediately, the addition of the proper correction being performed mentally. This arrangement, with the corresponding one in Table A, makes the tables *effectively* four-place each way.

C. Values and Logarithms of Trigonometric Functions. In this table, the values of $\sin \alpha$, $\cos \alpha$, $\tan \alpha$, $\cot \alpha$, and their common logarithms, are stated for each 10 minute interval in α . The characteristics of the logarithms are omitted, since they can be supplied readily from the value, as in the case of Table A.

19. Sources and Checks used. In arranging all of these tables, several extant tables have been used as sources; and the proofs have been read against the standard seven-place tables of Vega, and at least one other table, or against at least two independent sources when the figures are not given by Vega. In all cases, the stereotyped plates have been proof-read five times, by three different persons.

In case of apparent doubt, especially in the last place of decimals, the values have been recomputed, either by series or by the condensed fifteen-place tables of Hoüel.

While errors may occur, it is believed that they must be purely typographical; in most cases such an error is revealed by the unreasonable differences it creates.

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Greek Alphabet

| LETTERS | NAMES | LETTERS | NAMES | LETTERS | NAMES | LETTERS | NAMES |
|---------|---------|---------|--------|---------|---------|---------|---------|
| A α | Alpha | H η | Eta | N ν | Nu | T τ | Tau |
| B β | Beta | Θ θ | Theta | Ξ ξ | Xi | Υ υ | Upsilon |
| Γ γ | Gamma | I ι | Iota | Ο ο | Omicron | Φ φ | Phi |
| Δ δ | Delta | K κ | Kappa | Π π | Pi | Χ χ | Chi |
| E ε | Epsilon | Λ λ | Lambda | Ρ ρ | Rho | Ψ ψ | Psi |
| Z ζ | Zeta | Μ μ | Mu | Σ σ ς | Sigma | Ω ω | Omega |

LOGARITHMIC AND TRIGONOMETRIC TABLES

TABLE I COMMON LOGARITHMS OF NUMBERS

FROM

1 TO 10 000

TO

FIVE DECIMAL PLACES

1—100

| N | Log | N | Log | N | Log | N | Log | N | Log |
|----|----------|----|----------|----|----------|----|----------|----|----------|
| 0 | | 20 | 1.30 103 | 40 | 1.60 206 | 60 | 1.77 815 | 80 | 1.90 309 |
| 1 | 0.00 000 | 21 | 1.32 222 | 41 | 1.61 278 | 61 | 1.78 533 | 81 | 1.90 849 |
| 2 | 0.30 103 | 22 | 1.34 242 | 42 | 1.62 325 | 62 | 1.79 239 | 82 | 1.91 381 |
| 3 | 0.47 712 | 23 | 1.36 173 | 43 | 1.63 347 | 63 | 1.79 934 | 83 | 1.91 908 |
| 4 | 0.60 206 | 24 | 1.38 021 | 44 | 1.64 345 | 64 | 1.80 618 | 84 | 1.92 428 |
| 5 | 0.69 897 | 25 | 1.39 794 | 45 | 1.65 321 | 65 | 1.81 291 | 85 | 1.92 942 |
| 6 | 0.77 815 | 26 | 1.41 497 | 46 | 1.66 276 | 66 | 1.81 954 | 86 | 1.93 450 |
| 7 | 0.84 510 | 27 | 1.43 136 | 47 | 1.67 210 | 67 | 1.82 607 | 87 | 1.93 952 |
| 8 | 0.90 309 | 28 | 1.44 716 | 48 | 1.68 124 | 68 | 1.83 251 | 88 | 1.94 448 |
| 9 | 0.95 424 | 29 | 1.46 240 | 49 | 1.69 020 | 69 | 1.83 885 | 89 | 1.94 939 |
| 10 | 1.00 000 | 30 | 1.47 712 | 50 | 1.69 897 | 70 | 1.84 510 | 90 | 1.95 424 |
| 11 | 1.04 139 | 31 | 1.49 136 | 51 | 1.70 757 | 71 | 1.85 126 | 91 | 1.95 904 |
| 12 | 1.07 918 | 32 | 1.50 515 | 52 | 1.71 600 | 72 | 1.85 733 | 92 | 1.96 379 |
| 13 | 1.11 394 | 33 | 1.51 851 | 53 | 1.72 428 | 73 | 1.86 332 | 93 | 1.96 848 |
| 14 | 1.14 613 | 34 | 1.53 148 | 54 | 1.73 239 | 74 | 1.86 923 | 94 | 1.97 313 |
| 15 | 1.17 609 | 35 | 1.54 407 | 55 | 1.74 036 | 75 | 1.87 506 | 95 | 1.97 772 |
| 16 | 1.20 412 | 36 | 1.55 630 | 56 | 1.74 819 | 76 | 1.88 081 | 96 | 1.98 227 |
| 17 | 1.23 045 | 37 | 1.56 820 | 57 | 1.75 587 | 77 | 1.88 649 | 97 | 1.98 677 |
| 18 | 1.25 527 | 38 | 1.57 978 | 58 | 1.76 343 | 78 | 1.89 209 | 98 | 1.99 123 |
| 19 | 1.27 875 | 39 | 1.59 106 | 59 | 1.77 085 | 79 | 1.89 763 | 99 | 1.99 564 |
| N | Log | N | Log | N | Log | N | Log | N | Log |

| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | | | |
|-----|--------|------|------|------|------|------|------|------|------|------|------------|------|------|------|--|
| 100 | 00 000 | 043 | 087 | 130 | 173 | 217 | 260 | 303 | 346 | 389 | | | | | |
| 01 | 432 | 475 | 518 | 561 | 604 | 647 | 689 | 732 | 775 | 817 | | 44 | 43 | 42 | |
| 02 | 860 | 903 | 945 | 988 | *030 | *072 | *115 | *157 | *199 | *242 | 1 | 4.4 | 4.3 | 4.2 | |
| 03 | 01 284 | 326 | 368 | 410 | 452 | 494 | 536 | 578 | 620 | 662 | 2 | 8.8 | 8.6 | 8.4 | |
| 04 | 703 | 745 | 787 | 828 | 870 | 912 | 953 | 995 | *036 | *078 | 3 | 13.2 | 12.9 | 12.6 | |
| 05 | 02 119 | 160 | 202 | 243 | 284 | 325 | 366 | 407 | 449 | 490 | 4 | 17.6 | 17.2 | 16.8 | |
| 06 | 531 | 572 | 612 | 653 | 694 | 735 | 776 | 816 | 857 | 898 | 5 | 22.0 | 21.5 | 21.0 | |
| 07 | 938 | 979 | *019 | *060 | *100 | *141 | *181 | *222 | *262 | *302 | 6 | 26.4 | 25.8 | 25.2 | |
| 08 | 03 342 | 383 | 423 | 463 | 503 | 543 | 583 | 623 | 663 | 703 | 7 | 30.8 | 30.1 | 29.4 | |
| 09 | 743 | 782 | 822 | 862 | 902 | 941 | 981 | *021 | *060 | *100 | 8 | 35.2 | 34.4 | 33.6 | |
| 110 | 04 139 | 179 | 218 | 258 | 297 | 336 | 376 | 415 | 454 | 493 | 9 | 39.6 | 38.7 | 37.8 | |
| 11 | 532 | 571 | 610 | 650 | 689 | 727 | 766 | 805 | 844 | 883 | | 41 | 40 | 39 | |
| 12 | 922 | 961 | 999 | *038 | *077 | *115 | *154 | *192 | *231 | *269 | 1 | 4.1 | 4.0 | 3.9 | |
| 13 | 05 308 | 346 | 385 | 423 | 461 | 500 | 538 | 576 | 614 | 652 | 2 | 8.2 | 8.0 | 7.8 | |
| 14 | 690 | 729 | 767 | 805 | 843 | 881 | 918 | 956 | 994 | *032 | 3 | 12.3 | 12.0 | 11.7 | |
| 15 | 06 070 | 108 | 145 | 183 | 221 | 258 | 296 | 333 | 371 | 408 | 4 | 16.4 | 16.0 | 15.6 | |
| 16 | 446 | 483 | 521 | 558 | 595 | 633 | 670 | 707 | 744 | 781 | 5 | 20.5 | 20.0 | 19.5 | |
| 17 | 819 | 856 | 893 | 930 | 967 | *004 | *041 | *078 | *115 | *151 | 6 | 24.6 | 24.0 | 23.4 | |
| 18 | 07 188 | 225 | 262 | 298 | 335 | 372 | 408 | 445 | 482 | 518 | 7 | 28.7 | 28.0 | 27.3 | |
| 19 | 555 | 591 | 628 | 664 | 700 | 737 | 773 | 809 | 846 | 882 | 8 | 32.8 | 32.0 | 31.2 | |
| | | | | | | | | | | | 9 | 36.9 | 36.0 | 35.1 | |
| 120 | 918 | 954 | 990 | *027 | *063 | *099 | *135 | *171 | *207 | *243 | | 38 | 37 | 36 | |
| 21 | 08 279 | 314 | 350 | 386 | 422 | 458 | 493 | 529 | 565 | 600 | 1 | 3.8 | 3.7 | 3.6 | |
| 22 | 636 | 672 | 707 | 743 | 778 | 814 | 849 | 884 | 920 | 955 | 2 | 7.6 | 7.4 | 7.2 | |
| 23 | 991 | *026 | *061 | *096 | *132 | *167 | *202 | *237 | *272 | *307 | 3 | 11.4 | 11.1 | 10.8 | |
| 24 | 09 342 | 377 | 412 | 447 | 482 | 517 | 552 | 587 | 621 | 656 | 4 | 15.2 | 14.8 | 14.4 | |
| 25 | 691 | 726 | 760 | 795 | 830 | 864 | 899 | 934 | 968 | *003 | 5 | 19.0 | 18.5 | 18.0 | |
| 26 | 10 037 | 072 | 106 | 140 | 175 | 209 | 243 | 278 | 312 | 346 | 6 | 22.8 | 22.2 | 21.6 | |
| 27 | 380 | 415 | 449 | 483 | 517 | 551 | 585 | 619 | 653 | 687 | 7 | 26.6 | 25.9 | 25.2 | |
| 28 | 721 | 755 | 789 | 823 | 857 | 890 | 924 | 958 | 992 | *025 | 8 | 30.4 | 29.6 | 28.8 | |
| 29 | 11 039 | 093 | 126 | 160 | 193 | 227 | 261 | 294 | 327 | 361 | 9 | 34.2 | 33.3 | 32.4 | |
| 130 | 394 | 428 | 461 | 494 | 528 | 561 | 594 | 628 | 661 | 694 | | 35 | 34 | 33 | |
| 31 | 727 | 760 | 793 | 826 | 860 | 893 | 926 | 959 | 992 | *024 | 1 | 3.5 | 3.4 | 3.3 | |
| 32 | 12 057 | 090 | 123 | 156 | 189 | 222 | 254 | 287 | 320 | 352 | 2 | 7.0 | 6.8 | 6.6 | |
| 33 | 385 | 418 | 450 | 483 | 516 | 548 | 581 | 613 | 646 | 678 | 3 | 10.5 | 10.2 | 9.9 | |
| 34 | 710 | 743 | 775 | 808 | 840 | 872 | 905 | 937 | 969 | *001 | 4 | 14.0 | 13.6 | 13.2 | |
| 35 | 13 033 | 066 | 098 | 130 | 162 | 194 | 226 | 258 | 290 | 322 | 5 | 17.5 | 17.0 | 16.5 | |
| 36 | 354 | 386 | 418 | 450 | 481 | 513 | 545 | 577 | 609 | 640 | 6 | 21.0 | 20.4 | 19.8 | |
| 37 | 672 | 704 | 735 | 767 | 799 | 830 | 862 | 893 | 925 | 956 | 7 | 24.5 | 23.8 | 23.1 | |
| 38 | 988 | *019 | *051 | *082 | *114 | *145 | *176 | *208 | *239 | *270 | 8 | 28.0 | 27.2 | 26.4 | |
| 39 | 14 301 | 333 | 364 | 395 | 426 | 457 | 489 | 520 | 551 | 582 | 9 | 31.5 | 30.6 | 29.7 | |
| 140 | 613 | 644 | 675 | 706 | 737 | 768 | 799 | 829 | 860 | 891 | | 32 | 31 | 30 | |
| 41 | 922 | 953 | 983 | *014 | *045 | *076 | *106 | *137 | *168 | *198 | 1 | 3.2 | 3.1 | 3.0 | |
| 42 | 15 229 | 259 | 290 | 320 | 351 | 381 | 412 | 442 | 473 | 503 | 2 | 6.4 | 6.2 | 6.0 | |
| 43 | 534 | 564 | 594 | 625 | 655 | 685 | 715 | 746 | 776 | 806 | 3 | 9.6 | 9.3 | 9.0 | |
| 44 | 836 | 866 | 897 | 927 | 957 | 987 | *017 | *047 | *077 | *107 | 4 | 12.8 | 12.4 | 12.0 | |
| 45 | 16 137 | 167 | 197 | 227 | 256 | 286 | 316 | 346 | 376 | 406 | 5 | 16.0 | 15.5 | 15.0 | |
| 46 | 435 | 465 | 495 | 524 | 554 | 584 | 613 | 643 | 673 | 702 | 6 | 19.2 | 18.6 | 18.0 | |
| 47 | 732 | 761 | 791 | 820 | 850 | 879 | 909 | 938 | 967 | 997 | 7 | 22.4 | 21.7 | 21.0 | |
| 48 | 17 026 | 056 | 085 | 114 | 143 | 173 | 202 | 231 | 260 | 289 | 8 | 25.6 | 24.8 | 24.0 | |
| 49 | 319 | 348 | 377 | 406 | 435 | 464 | 493 | 522 | 551 | 580 | 9 | 28.8 | 27.9 | 27.0 | |
| 150 | 609 | 638 | 667 | 696 | 725 | 754 | 782 | 811 | 840 | 869 | | | | | |
| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | | | |

| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | | |
|-----|--------|-----|------|------|------|------|------|------|------|------|------------|------|------|------|
| 150 | 17 609 | 638 | 667 | 696 | 725 | 754 | 782 | 811 | 840 | 869 | | | | |
| 51 | 898 | 926 | 955 | 984 | *013 | *041 | *070 | *099 | *127 | *156 | | | | |
| 52 | 18 184 | 213 | 241 | 270 | 298 | 327 | 355 | 384 | 412 | 441 | | | | |
| 53 | 469 | 498 | 526 | 554 | 583 | 611 | 639 | 667 | 696 | 724 | | | | |
| 54 | 752 | 780 | 808 | 837 | 865 | 893 | 921 | 949 | 977 | *005 | | | | |
| 55 | 19 033 | 061 | 089 | 117 | 145 | 173 | 201 | 229 | 257 | 285 | | | | |
| 56 | 312 | 340 | 368 | 396 | 424 | 451 | 479 | 507 | 535 | 562 | | | | |
| 57 | 590 | 618 | 645 | 673 | 700 | 728 | 756 | 783 | 811 | 838 | | | | |
| 58 | 866 | 893 | 921 | 948 | 976 | *003 | *030 | *058 | *085 | *112 | | | | |
| 59 | 20 140 | 167 | 194 | 222 | 249 | 276 | 303 | 330 | 358 | 385 | | | | |
| 160 | 412 | 439 | 466 | 493 | 520 | 548 | 575 | 602 | 629 | 656 | | | | |
| 61 | 683 | 710 | 737 | 763 | 790 | 817 | 844 | 871 | 898 | 925 | 29 | 28 | 27 | |
| 62 | 952 | 978 | *005 | *032 | *059 | *085 | *112 | *139 | *165 | *192 | 1 | 2.9 | 2.8 | 2.7 |
| 63 | 21 219 | 245 | 272 | 299 | 325 | 352 | 378 | 405 | 431 | 458 | 2 | 5.8 | 5.6 | 5.4 |
| 64 | 484 | 511 | 537 | 564 | 590 | 617 | 643 | 669 | 696 | 722 | 3 | 8.7 | 8.4 | 8.1 |
| 65 | 748 | 775 | 801 | 827 | 854 | 880 | 906 | 932 | 958 | 985 | 4 | 11.6 | 11.2 | 10.8 |
| 66 | 22 011 | 037 | 063 | 089 | 115 | 141 | 167 | 194 | 220 | 246 | 5 | 14.5 | 14.0 | 13.5 |
| 67 | 272 | 298 | 324 | 350 | 376 | 401 | 427 | 453 | 479 | 505 | 6 | 17.4 | 16.8 | 16.2 |
| 68 | 531 | 557 | 583 | 608 | 634 | 660 | 686 | 712 | 737 | 763 | 7 | 20.3 | 19.6 | 18.9 |
| 69 | 789 | 814 | 840 | 866 | 891 | 917 | 943 | 968 | 994 | *019 | 8 | 23.2 | 22.4 | 21.6 |
| | | | | | | | | | | | 9 | 26.1 | 25.2 | 24.3 |
| 170 | 23 045 | 070 | 096 | 121 | 147 | 172 | 198 | 223 | 249 | 274 | | | | |
| 71 | 300 | 325 | 350 | 376 | 401 | 426 | 452 | 477 | 502 | 528 | 26 | 25 | 24 | |
| 72 | 553 | 578 | 603 | 629 | 654 | 679 | 704 | 729 | 754 | 779 | 1 | 2.6 | 2.5 | 2.4 |
| 73 | 805 | 830 | 855 | 880 | 905 | 930 | 955 | 980 | *005 | *030 | 2 | 5.2 | 5.0 | 4.8 |
| 74 | 24 055 | 080 | 105 | 130 | 155 | 180 | 204 | 229 | 254 | 279 | 3 | 7.8 | 7.5 | 7.2 |
| 75 | 304 | 329 | 353 | 378 | 403 | 428 | 452 | 477 | 502 | 527 | 4 | 10.4 | 10.0 | 9.6 |
| 76 | 551 | 576 | 601 | 625 | 650 | 674 | 699 | 724 | 748 | 773 | 5 | 13.0 | 12.5 | 12.0 |
| 77 | 797 | 822 | 846 | 871 | 895 | 920 | 944 | 969 | 993 | *018 | 6 | 15.6 | 15.0 | 14.4 |
| 78 | 25 042 | 066 | 091 | 115 | 139 | 164 | 188 | 212 | 237 | 261 | 7 | 18.2 | 17.5 | 16.8 |
| 79 | 285 | 310 | 334 | 358 | 382 | 406 | 431 | 455 | 479 | 503 | 8 | 20.8 | 20.0 | 19.2 |
| | | | | | | | | | | | 9 | 23.4 | 22.5 | 21.6 |
| 180 | 527 | 551 | 575 | 600 | 624 | 648 | 672 | 696 | 720 | 744 | | | | |
| 81 | 768 | 792 | 816 | 840 | 864 | 888 | 912 | 935 | 959 | 983 | 23 | 22 | 21 | |
| 82 | 26 007 | 031 | 055 | 079 | 102 | 126 | 150 | 174 | 198 | 221 | 1 | 2.3 | 2.2 | 2.1 |
| 83 | 245 | 269 | 293 | 316 | 340 | 364 | 387 | 411 | 435 | 458 | 2 | 4.6 | 4.4 | 4.2 |
| 84 | 482 | 505 | 529 | 553 | 576 | 600 | 623 | 647 | 670 | 694 | 3 | 6.9 | 6.6 | 6.3 |
| 85 | 717 | 741 | 764 | 788 | 811 | 834 | 858 | 881 | 905 | 928 | 4 | 9.2 | 8.8 | 8.4 |
| 86 | 951 | 975 | 998 | *021 | *045 | *068 | *091 | *114 | *138 | *161 | 5 | 11.5 | 11.0 | 10.5 |
| 87 | 27 184 | 207 | 231 | 254 | 277 | 300 | 323 | 346 | 370 | 393 | 6 | 13.8 | 13.2 | 12.6 |
| 88 | 416 | 439 | 462 | 485 | 508 | 531 | 554 | 577 | 600 | 623 | 7 | 16.1 | 15.4 | 14.7 |
| 89 | 646 | 669 | 692 | 715 | 738 | 761 | 784 | 807 | 830 | 852 | 8 | 18.4 | 17.6 | 16.8 |
| | | | | | | | | | | | 9 | 20.7 | 19.8 | 18.9 |
| 190 | 875 | 898 | 921 | 944 | 967 | 989 | *012 | *035 | *058 | *081 | | | | |
| 91 | 28 103 | 126 | 149 | 171 | 194 | 217 | 240 | 262 | 285 | 307 | | | | |
| 92 | 330 | 353 | 375 | 398 | 421 | 443 | 466 | 488 | 511 | 533 | | | | |
| 93 | 556 | 578 | 601 | 623 | 646 | 668 | 691 | 713 | 735 | 758 | | | | |
| 94 | 780 | 803 | 825 | 847 | 870 | 892 | 914 | 937 | 959 | 981 | | | | |
| 95 | 29 003 | 026 | 048 | 070 | 092 | 115 | 137 | 159 | 181 | 203 | | | | |
| 96 | 226 | 248 | 270 | 292 | 314 | 336 | 358 | 380 | 403 | 425 | | | | |
| 97 | 447 | 469 | 491 | 513 | 535 | 557 | 579 | 601 | 623 | 645 | | | | |
| 98 | 667 | 688 | 710 | 732 | 754 | 776 | 798 | 820 | 842 | 863 | | | | |
| 99 | 885 | 907 | 929 | 951 | 973 | 994 | *016 | *038 | *060 | *081 | | | | |
| 200 | 30 103 | 125 | 146 | 168 | 190 | 211 | 233 | 255 | 276 | 298 | | | | |
| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | | |

| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | | |
|------------|--------|------|------|------|------|------|------|------|------|------|------------|-----------|-----------|------|
| 200 | 30 103 | 125 | 146 | 168 | 190 | 211 | 233 | 255 | 276 | 298 | | | | |
| 01 | 320 | 341 | 363 | 384 | 406 | 428 | 449 | 471 | 492 | 514 | | | | |
| 02 | 535 | 557 | 578 | 600 | 621 | 643 | 664 | 685 | 707 | 728 | | | | |
| 03 | 750 | 771 | 792 | 814 | 835 | 856 | 878 | 899 | 920 | 942 | | | | |
| 04 | 963 | 984 | *006 | *027 | *048 | *069 | *091 | *112 | *133 | *154 | | | | |
| 05 | 31 175 | 197 | 218 | 239 | 260 | 281 | 302 | 323 | 345 | 366 | | | | |
| 06 | 387 | 408 | 429 | 450 | 471 | 492 | 513 | 534 | 555 | 576 | | | | |
| 07 | 597 | 618 | 639 | 660 | 681 | 702 | 723 | 744 | 765 | 785 | | | | |
| 08 | 806 | 827 | 848 | 869 | 890 | 911 | 931 | 952 | 973 | 994 | | | | |
| 09 | 32 015 | 035 | 056 | 077 | 098 | 118 | 139 | 160 | 181 | 201 | | | | |
| 210 | 222 | 243 | 263 | 284 | 305 | 325 | 346 | 366 | 387 | 408 | | | | |
| 11 | 428 | 449 | 469 | 490 | 510 | 531 | 552 | 572 | 593 | 613 | 22 | 21 | 20 | |
| 12 | 634 | 654 | 675 | 695 | 715 | 736 | 756 | 777 | 797 | 818 | 1 | 2.2 | 2.1 | 2.0 |
| 13 | 838 | 858 | 879 | 899 | 919 | 940 | 960 | 980 | *001 | *021 | 2 | 4.4 | 4.2 | 4.0 |
| 14 | 33 041 | 062 | 082 | 102 | 122 | 143 | 163 | 183 | 203 | 224 | 3 | 6.6 | 6.3 | 6.0 |
| 15 | 244 | 264 | 284 | 304 | 325 | 345 | 365 | 385 | 405 | 425 | 4 | 8.8 | 8.4 | 8.0 |
| 16 | 445 | 465 | 486 | 506 | 526 | 546 | 566 | 586 | 606 | 626 | 5 | 11.0 | 10.5 | 10.0 |
| 17 | 646 | 666 | 686 | 706 | 726 | 746 | 766 | 786 | 806 | 826 | 6 | 13.2 | 12.6 | 12.0 |
| 18 | 846 | 866 | 885 | 905 | 925 | 945 | 965 | 985 | *005 | *025 | 7 | 15.4 | 14.7 | 14.0 |
| 19 | 34 044 | 064 | 084 | 104 | 124 | 143 | 163 | 183 | 203 | 223 | 8 | 17.6 | 16.8 | 16.0 |
| 220 | 242 | 262 | 282 | 301 | 321 | 341 | 361 | 380 | 400 | 420 | 9 | 19.8 | 18.9 | 18.0 |
| 21 | 439 | 459 | 479 | 498 | 518 | 537 | 557 | 577 | 596 | 616 | | | | |
| 22 | 635 | 655 | 674 | 694 | 713 | 733 | 753 | 772 | 792 | 811 | | | | |
| 23 | 830 | 850 | 869 | 889 | 908 | 928 | 947 | 967 | 986 | *005 | | | | |
| 24 | 35 025 | 044 | 064 | 083 | 102 | 122 | 141 | 160 | 180 | 199 | | | | |
| 25 | 218 | 238 | 257 | 276 | 295 | 315 | 334 | 353 | 372 | 392 | | | | |
| 26 | 411 | 430 | 449 | 468 | 488 | 507 | 526 | 545 | 564 | 583 | | | | |
| 27 | 603 | 622 | 641 | 660 | 679 | 698 | 717 | 736 | 755 | 774 | | | | |
| 28 | 793 | 813 | 832 | 851 | 870 | 889 | 908 | 927 | 946 | 965 | | | | |
| 29 | 984 | *003 | *021 | *040 | *059 | *078 | *097 | *116 | *135 | *154 | | | | |
| 230 | 36 173 | 192 | 211 | 229 | 248 | 267 | 286 | 305 | 324 | 342 | | | | |
| 31 | 361 | 380 | 399 | 418 | 436 | 455 | 474 | 493 | 511 | 530 | 19 | 18 | 17 | |
| 32 | 549 | 568 | 586 | 605 | 624 | 642 | 661 | 680 | 698 | 717 | 1 | 1.9 | 1.8 | 1.7 |
| 33 | 736 | 754 | 773 | 791 | 810 | 829 | 847 | 866 | 884 | 903 | 2 | 3.8 | 3.6 | 3.4 |
| 34 | 922 | 940 | 959 | 977 | 996 | *014 | *033 | *051 | *070 | *088 | 3 | 5.7 | 5.4 | 5.1 |
| 35 | 37 107 | 125 | 144 | 162 | 181 | 199 | 218 | 236 | 254 | 273 | 4 | 7.6 | 7.2 | 6.8 |
| 36 | 291 | 310 | 328 | 346 | 365 | 383 | 401 | 420 | 438 | 457 | 5 | 9.5 | 9.0 | 8.5 |
| 37 | 475 | 493 | 511 | 530 | 548 | 566 | 585 | 603 | 621 | 639 | 6 | 11.4 | 10.8 | 10.2 |
| 38 | 658 | 676 | 694 | 712 | 731 | 749 | 767 | 785 | 803 | 822 | 7 | 13.3 | 12.6 | 11.9 |
| 39 | 840 | 858 | 876 | 894 | 912 | 931 | 949 | 967 | 985 | *003 | 8 | 15.2 | 14.4 | 13.6 |
| 240 | 38 021 | 039 | 057 | 075 | 093 | 112 | 130 | 148 | 166 | 184 | 9 | 17.1 | 16.2 | 15.3 |
| 41 | 202 | 220 | 238 | 256 | 274 | 292 | 310 | 328 | 346 | 364 | | | | |
| 42 | 382 | 399 | 417 | 435 | 453 | 471 | 489 | 507 | 525 | 543 | | | | |
| 43 | 561 | 578 | 596 | 614 | 632 | 650 | 668 | 686 | 703 | 721 | | | | |
| 44 | 739 | 757 | 775 | 792 | 810 | 828 | 846 | 863 | 881 | 899 | | | | |
| 45 | 917 | 934 | 952 | 970 | 987 | *005 | *023 | *041 | *058 | *076 | | | | |
| 46 | 39 094 | 111 | 129 | 146 | 164 | 182 | 199 | 217 | 235 | 252 | | | | |
| 47 | 270 | 287 | 305 | 322 | 340 | 358 | 375 | 393 | 410 | 428 | | | | |
| 48 | 445 | 463 | 480 | 498 | 515 | 533 | 550 | 568 | 585 | 602 | | | | |
| 49 | 620 | 637 | 655 | 672 | 690 | 707 | 724 | 742 | 759 | 777 | | | | |
| 250 | 794 | 811 | 829 | 846 | 863 | 881 | 898 | 915 | 933 | 950 | | | | |
| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | | |

| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | | |
|------------|--------|------|------|------|------|------|------|------|------|------|------------|--|--|--|
| 250 | 39 794 | 811 | 829 | 846 | 863 | 881 | 898 | 915 | 933 | 950 | | | | |
| 51 | 967 | 985 | *002 | *019 | *037 | *054 | *071 | *088 | *106 | *123 | | | | |
| 52 | 40 140 | 157 | 175 | 192 | 209 | 226 | 243 | 261 | 278 | 295 | | | | |
| 53 | 312 | 329 | 346 | 364 | 381 | 398 | 415 | 432 | 449 | 466 | | | | |
| 54 | 483 | 500 | 518 | 535 | 552 | 569 | 586 | 603 | 620 | 637 | | | | |
| 55 | 654 | 671 | 688 | 705 | 722 | 739 | 756 | 773 | 790 | 807 | | | | |
| 56 | 824 | 841 | 858 | 875 | 892 | 909 | 926 | 943 | 960 | 976 | | | | |
| 57 | 993 | *010 | *027 | *044 | *061 | *078 | *095 | *111 | *128 | *145 | | | | |
| 58 | 41 162 | 179 | 196 | 212 | 229 | 246 | 263 | 280 | 296 | 313 | | | | |
| 59 | 330 | 347 | 363 | 380 | 397 | 414 | 430 | 447 | 464 | 481 | | | | |
| 260 | 497 | 514 | 531 | 547 | 564 | 581 | 597 | 614 | 631 | 647 | | | | |
| 61 | 664 | 681 | 697 | 714 | 731 | 747 | 764 | 780 | 797 | 814 | | | | |
| 62 | 830 | 847 | 863 | 880 | 896 | 913 | 929 | 946 | 963 | 979 | | | | |
| 63 | 996 | *012 | *029 | *045 | *062 | *078 | *095 | *111 | *127 | *144 | | | | |
| 64 | 42 160 | 177 | 193 | 210 | 226 | 243 | 259 | 275 | 292 | 308 | | | | |
| 65 | 325 | 341 | 357 | 374 | 390 | 406 | 423 | 439 | 455 | 472 | | | | |
| 66 | 488 | 504 | 521 | 537 | 553 | 570 | 586 | 602 | 619 | 635 | | | | |
| 67 | 651 | 667 | 684 | 700 | 716 | 732 | 749 | 765 | 781 | 797 | | | | |
| 68 | 813 | 830 | 846 | 862 | 878 | 894 | 911 | 927 | 943 | 959 | | | | |
| 69 | 975 | 991 | *008 | *024 | *040 | *056 | *072 | *088 | *104 | *120 | | | | |
| 270 | 43 136 | 152 | 169 | 185 | 201 | 217 | 233 | 249 | 265 | 281 | | | | |
| 71 | 297 | 313 | 329 | 345 | 361 | 377 | 393 | 409 | 425 | 441 | | | | |
| 72 | 457 | 473 | 489 | 505 | 521 | 537 | 553 | 569 | 584 | 600 | | | | |
| 73 | 616 | 632 | 648 | 664 | 680 | 696 | 712 | 727 | 743 | 759 | | | | |
| 74 | 775 | 791 | 807 | 823 | 838 | 854 | 870 | 886 | 902 | 917 | | | | |
| 75 | 933 | 949 | 965 | 981 | 996 | *012 | *028 | *044 | *059 | *075 | | | | |
| 76 | 44 091 | 107 | 122 | 138 | 154 | 170 | 185 | 201 | 217 | 232 | | | | |
| 77 | 248 | 264 | 279 | 295 | 311 | 326 | 342 | 358 | 373 | 389 | | | | |
| 78 | 404 | 420 | 436 | 451 | 467 | 483 | 498 | 514 | 529 | 545 | | | | |
| 79 | 560 | 576 | 592 | 607 | 623 | 638 | 654 | 669 | 685 | 700 | | | | |
| 280 | 716 | 731 | 747 | 762 | 778 | 793 | 809 | 824 | 840 | 855 | | | | |
| 81 | 871 | 886 | 902 | 917 | 932 | 948 | 963 | 979 | 994 | *010 | | | | |
| 82 | 45 025 | 040 | 056 | 071 | 086 | 102 | 117 | 133 | 148 | 163 | | | | |
| 83 | 179 | 194 | 209 | 225 | 240 | 255 | 271 | 286 | 301 | 317 | | | | |
| 84 | 332 | 347 | 362 | 378 | 393 | 408 | 423 | 439 | 454 | 469 | | | | |
| 85 | 484 | 500 | 515 | 530 | 545 | 561 | 576 | 591 | 606 | 621 | | | | |
| 86 | 637 | 652 | 667 | 682 | 697 | 712 | 728 | 743 | 758 | 773 | | | | |
| 87 | 788 | 803 | 818 | 834 | 849 | 864 | 879 | 894 | 909 | 924 | | | | |
| 88 | 939 | 954 | 969 | 984 | *000 | *015 | *030 | *045 | *060 | *075 | | | | |
| 89 | 46 090 | 105 | 120 | 135 | 150 | 165 | 180 | 195 | 210 | 225 | | | | |
| 290 | 240 | 255 | 270 | 285 | 300 | 315 | 330 | 345 | 359 | 374 | | | | |
| 91 | 389 | 404 | 419 | 434 | 449 | 464 | 479 | 494 | 509 | 523 | | | | |
| 92 | 538 | 553 | 568 | 583 | 598 | 613 | 627 | 642 | 657 | 672 | | | | |
| 93 | 687 | 702 | 716 | 731 | 746 | 761 | 776 | 790 | 805 | 820 | | | | |
| 94 | 835 | 850 | 864 | 879 | 894 | 909 | 923 | 938 | 953 | 967 | | | | |
| 95 | 982 | 997 | *012 | *026 | *041 | *056 | *070 | *085 | *100 | *114 | | | | |
| 96 | 47 129 | 144 | 159 | 173 | 188 | 202 | 217 | 232 | 246 | 261 | | | | |
| 97 | 276 | 290 | 305 | 319 | 334 | 349 | 363 | 378 | 392 | 407 | | | | |
| 98 | 422 | 436 | 451 | 465 | 480 | 494 | 509 | 524 | 538 | 553 | | | | |
| 99 | 567 | 582 | 596 | 611 | 625 | 640 | 654 | 669 | 683 | 698 | | | | |
| 300 | 712 | 727 | 741 | 756 | 770 | 784 | 799 | 813 | 828 | 842 | | | | |
| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | | |

| | 18 | 17 | 16 |
|---|------|------|------|
| 1 | 1.8 | 1.7 | 1.6 |
| 2 | 3.6 | 3.4 | 3.2 |
| 3 | 5.4 | 5.1 | 4.8 |
| 4 | 7.2 | 6.8 | 6.4 |
| 5 | 9.0 | 8.5 | 8.0 |
| 6 | 10.8 | 10.2 | 9.6 |
| 7 | 12.6 | 11.9 | 11.2 |
| 8 | 14.4 | 13.6 | 12.8 |
| 9 | 16.2 | 15.3 | 14.4 |

| | 15 | 14 |
|---|------|------|
| 1 | 1.5 | 1.4 |
| 2 | 3.0 | 2.8 |
| 3 | 4.5 | 4.2 |
| 4 | 6.0 | 5.6 |
| 5 | 7.5 | 7.0 |
| 6 | 9.0 | 8.4 |
| 7 | 10.5 | 9.8 |
| 8 | 12.0 | 11.2 |
| 9 | 13.5 | 12.6 |

| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. |
|------------|--------|------|------|------|------|------|------|------|------|------|------------|
| 300 | 47 712 | 727 | 741 | 756 | 770 | 784 | 799 | 813 | 828 | 842 | |
| 01 | 857 | 871 | 885 | 900 | 914 | 929 | 943 | 958 | 972 | 986 | |
| 02 | 48 001 | 015 | 029 | 044 | 058 | 073 | 087 | 101 | 116 | 130 | |
| 03 | 144 | 159 | 173 | 187 | 202 | 216 | 230 | 244 | 259 | 273 | |
| 04 | 287 | 302 | 316 | 330 | 344 | 359 | 373 | 387 | 401 | 416 | |
| 05 | 430 | 444 | 458 | 473 | 487 | 501 | 515 | 530 | 544 | 558 | |
| 06 | 572 | 586 | 601 | 615 | 629 | 643 | 657 | 671 | 686 | 700 | |
| 07 | 714 | 728 | 742 | 756 | 770 | 785 | 799 | 813 | 827 | 841 | |
| 08 | 855 | 869 | 883 | 897 | 911 | 926 | 940 | 954 | 968 | 982 | |
| 09 | 996 | *010 | *024 | *038 | *052 | *066 | *080 | *094 | *108 | *122 | |
| 310 | 49 136 | 150 | 164 | 178 | 192 | 206 | 220 | 234 | 248 | 262 | |
| 11 | 276 | 290 | 304 | 318 | 332 | 346 | 360 | 374 | 388 | 402 | |
| 12 | 415 | 429 | 443 | 457 | 471 | 485 | 499 | 513 | 527 | 541 | |
| 13 | 554 | 568 | 582 | 596 | 610 | 624 | 638 | 651 | 665 | 679 | |
| 14 | 693 | 707 | 721 | 734 | 748 | 762 | 776 | 790 | 803 | 817 | |
| 15 | 831 | 845 | 859 | 872 | 886 | 900 | 914 | 927 | 941 | 955 | |
| 16 | 969 | 982 | 996 | *010 | *024 | *037 | *051 | *065 | *079 | *092 | |
| 17 | 50 106 | 120 | 133 | 147 | 161 | 174 | 188 | 202 | 215 | 229 | |
| 18 | 243 | 256 | 270 | 284 | 297 | 311 | 325 | 338 | 352 | 365 | |
| 19 | 379 | 393 | 406 | 420 | 433 | 447 | 461 | 474 | 488 | 501 | |
| 320 | 515 | 529 | 542 | 556 | 569 | 583 | 596 | 610 | 623 | 637 | |
| 21 | 651 | 664 | 678 | 691 | 705 | 718 | 732 | 745 | 759 | 772 | |
| 22 | 786 | 799 | 813 | 826 | 840 | 853 | 866 | 880 | 893 | 907 | |
| 23 | 920 | 934 | 947 | 961 | 974 | 987 | *001 | *014 | *028 | *041 | |
| 24 | 51 055 | 068 | 081 | 095 | 108 | 121 | 135 | 148 | 162 | 175 | |
| 25 | 188 | 202 | 215 | 228 | 242 | 255 | 268 | 282 | 295 | 308 | |
| 26 | 322 | 335 | 348 | 362 | 375 | 388 | 402 | 415 | 428 | 441 | |
| 27 | 455 | 468 | 481 | 495 | 508 | 521 | 534 | 548 | 561 | 574 | |
| 28 | 587 | 601 | 614 | 627 | 640 | 654 | 667 | 680 | 693 | 706 | |
| 29 | 720 | 733 | 746 | 759 | 772 | 786 | 799 | 812 | 825 | 838 | |
| 330 | 851 | 865 | 878 | 891 | 904 | 917 | 930 | 943 | 957 | 970 | |
| 31 | 983 | 996 | *009 | *022 | *035 | *048 | *061 | *075 | *088 | *101 | |
| 32 | 52 114 | 127 | 140 | 153 | 166 | 179 | 192 | 205 | 218 | 231 | |
| 33 | 244 | 257 | 270 | 284 | 297 | 310 | 323 | 336 | 349 | 362 | |
| 34 | 375 | 388 | 401 | 414 | 427 | 440 | 453 | 466 | 479 | 492 | |
| 35 | 504 | 517 | 530 | 543 | 556 | 569 | 582 | 595 | 608 | 621 | |
| 36 | 634 | 647 | 660 | 673 | 686 | 699 | 711 | 724 | 737 | 750 | |
| 37 | 763 | 776 | 789 | 802 | 815 | 827 | 840 | 853 | 866 | 879 | |
| 38 | 892 | 905 | 917 | 930 | 943 | 956 | 969 | 982 | 994 | *007 | |
| 39 | 53 020 | 033 | 046 | 058 | 071 | 084 | 097 | 110 | 122 | 135 | |
| 340 | 148 | 161 | 173 | 186 | 199 | 212 | 224 | 237 | 250 | 263 | |
| 41 | 275 | 288 | 301 | 314 | 326 | 339 | 352 | 364 | 377 | 390 | |
| 42 | 403 | 415 | 428 | 441 | 453 | 466 | 479 | 491 | 504 | 517 | |
| 43 | 529 | 542 | 555 | 567 | 580 | 593 | 605 | 618 | 631 | 643 | |
| 44 | 656 | 668 | 681 | 694 | 706 | 719 | 732 | 744 | 757 | 769 | |
| 45 | 782 | 794 | 807 | 820 | 832 | 845 | 857 | 870 | 882 | 895 | |
| 46 | 908 | 920 | 933 | 945 | 958 | 970 | 983 | 995 | *008 | *020 | |
| 47 | 54 033 | 045 | 058 | 070 | 083 | 095 | 108 | 120 | 133 | 145 | |
| 48 | 158 | 170 | 183 | 195 | 208 | 220 | 233 | 245 | 258 | 270 | |
| 49 | 283 | 295 | 307 | 320 | 332 | 345 | 357 | 370 | 382 | 394 | |
| 350 | 407 | 419 | 432 | 444 | 456 | 469 | 481 | 494 | 506 | 518 | |
| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. |

15 14

| | | |
|---|------|------|
| 1 | 1.5 | 1.4 |
| 2 | 3.0 | 2.8 |
| 3 | 4.5 | 4.2 |
| 4 | 6.0 | 5.6 |
| 5 | 7.5 | 7.0 |
| 6 | 9.0 | 8.4 |
| 7 | 10.5 | 9.8 |
| 8 | 12.0 | 11.2 |
| 9 | 13.5 | 12.6 |

13 12

| | | |
|---|------|------|
| 1 | 1.3 | 1.2 |
| 2 | 2.6 | 2.4 |
| 3 | 3.9 | 3.6 |
| 4 | 5.2 | 4.8 |
| 5 | 6.5 | 6.0 |
| 6 | 7.8 | 7.2 |
| 7 | 9.1 | 8.4 |
| 8 | 10.4 | 9.6 |
| 9 | 11.7 | 10.8 |

| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | |
|-----|--------|------|------|------|------|------|------|------|------|------|------------|--|--|
| 350 | 54 407 | 419 | 432 | 444 | 456 | 469 | 481 | 494 | 506 | 518 | | | |
| 51 | 531 | 543 | 555 | 568 | 580 | 593 | 605 | 617 | 630 | 642 | | | |
| 52 | 654 | 667 | 679 | 691 | 704 | 716 | 728 | 741 | 753 | 765 | | | |
| 53 | 777 | 790 | 802 | 814 | 827 | 839 | 851 | 864 | 876 | 888 | | | |
| 54 | 900 | 913 | 925 | 937 | 949 | 962 | 974 | 986 | 998 | *011 | | | |
| 55 | 55 023 | 035 | 047 | 060 | 072 | 084 | 096 | 108 | 121 | 133 | | | |
| 56 | 145 | 157 | 169 | 182 | 194 | 206 | 218 | 230 | 242 | 255 | | | |
| 57 | 267 | 279 | 291 | 303 | 315 | 328 | 340 | 352 | 364 | 376 | | | |
| 58 | 388 | 400 | 413 | 425 | 437 | 449 | 461 | 473 | 485 | 497 | | | |
| 59 | 509 | 522 | 534 | 546 | 558 | 570 | 582 | 594 | 606 | 618 | | | |
| 360 | 630 | 642 | 654 | 666 | 678 | 691 | 703 | 715 | 727 | 739 | | | |
| 61 | 751 | 763 | 775 | 787 | 799 | 811 | 823 | 835 | 847 | 859 | | | |
| 62 | 871 | 883 | 895 | 907 | 919 | 931 | 943 | 955 | 967 | 979 | | | |
| 63 | 991 | *003 | *015 | *027 | *038 | *050 | *062 | *074 | *086 | *098 | | | |
| 64 | 56 110 | 122 | 134 | 146 | 158 | 170 | 182 | 194 | 205 | 217 | | | |
| 65 | 229 | 241 | 253 | 265 | 277 | 289 | 301 | 312 | 324 | 336 | | | |
| 66 | 348 | 360 | 372 | 384 | 396 | 407 | 419 | 431 | 443 | 455 | | | |
| 67 | 467 | 478 | 490 | 502 | 514 | 526 | 538 | 549 | 561 | 573 | | | |
| 68 | 585 | 597 | 608 | 620 | 632 | 644 | 656 | 667 | 679 | 691 | | | |
| 69 | 703 | 714 | 726 | 738 | 750 | 761 | 773 | 785 | 797 | 808 | | | |
| 370 | 820 | 832 | 844 | 855 | 867 | 879 | 891 | 902 | 914 | 926 | | | |
| 71 | 937 | 949 | 961 | 972 | 984 | 996 | *008 | *019 | *031 | *043 | | | |
| 72 | 57 054 | 066 | 078 | 089 | 101 | 113 | 124 | 136 | 148 | 159 | | | |
| 73 | 171 | 183 | 194 | 206 | 217 | 229 | 241 | 252 | 264 | 276 | | | |
| 74 | 287 | 299 | 310 | 322 | 334 | 345 | 357 | 368 | 380 | 392 | | | |
| 75 | 403 | 415 | 426 | 438 | 449 | 461 | 473 | 484 | 496 | 507 | | | |
| 76 | 519 | 530 | 542 | 553 | 565 | 576 | 588 | 600 | 611 | 623 | | | |
| 77 | 634 | 646 | 657 | 669 | 680 | 692 | 703 | 715 | 726 | 738 | | | |
| 78 | 749 | 761 | 772 | 784 | 795 | 807 | 818 | 830 | 841 | 852 | | | |
| 79 | 864 | 875 | 887 | 898 | 910 | 921 | 933 | 944 | 955 | 967 | | | |
| 380 | 978 | 990 | *001 | *013 | *024 | *035 | *047 | *058 | *070 | *081 | | | |
| 81 | 58 092 | 104 | 115 | 127 | 138 | 149 | 161 | 172 | 184 | 195 | | | |
| 82 | 206 | 218 | 229 | 240 | 252 | 263 | 274 | 286 | 297 | 309 | | | |
| 83 | 320 | 331 | 343 | 354 | 365 | 377 | 388 | 399 | 410 | 422 | | | |
| 84 | 433 | 444 | 456 | 467 | 478 | 490 | 501 | 512 | 524 | 535 | | | |
| 85 | 546 | 557 | 569 | 580 | 591 | 602 | 614 | 625 | 636 | 647 | | | |
| 86 | 659 | 670 | 681 | 692 | 704 | 715 | 726 | 737 | 749 | 760 | | | |
| 87 | 771 | 782 | 794 | 805 | 816 | 827 | 838 | 850 | 861 | 872 | | | |
| 88 | 883 | 894 | 906 | 917 | 928 | 939 | 950 | 961 | 973 | 984 | | | |
| 89 | 995 | *006 | *017 | *028 | *040 | *051 | *062 | *073 | *084 | *095 | | | |
| 390 | 59 106 | 118 | 129 | 140 | 151 | 162 | 173 | 184 | 195 | 207 | | | |
| 91 | 218 | 229 | 240 | 251 | 262 | 273 | 284 | 295 | 306 | 318 | | | |
| 92 | 329 | 340 | 351 | 362 | 373 | 384 | 395 | 406 | 417 | 428 | | | |
| 93 | 439 | 450 | 461 | 472 | 483 | 494 | 506 | 517 | 528 | 539 | | | |
| 94 | 550 | 561 | 572 | 583 | 594 | 605 | 616 | 627 | 638 | 649 | | | |
| 95 | 660 | 671 | 682 | 693 | 704 | 715 | 726 | 737 | 748 | 759 | | | |
| 96 | 770 | 780 | 791 | 802 | 813 | 824 | 835 | 846 | 857 | 868 | | | |
| 97 | 879 | 890 | 901 | 912 | 923 | 934 | 945 | 956 | 966 | 977 | | | |
| 98 | 988 | 999 | *010 | *021 | *032 | *043 | *054 | *065 | *076 | *086 | | | |
| 99 | 60 097 | 108 | 119 | 130 | 141 | 152 | 163 | 173 | 184 | 195 | | | |
| 400 | 206 | 217 | 228 | 239 | 249 | 260 | 271 | 282 | 293 | 304 | | | |
| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | |

| | 13 | 12 |
|---|------|------|
| 1 | 1.3 | 1.2 |
| 2 | 2.6 | 2.4 |
| 3 | 3.9 | 3.6 |
| 4 | 5.2 | 4.8 |
| 5 | 6.5 | 6.0 |
| 6 | 7.8 | 7.2 |
| 7 | 9.1 | 8.4 |
| 8 | 10.4 | 9.6 |
| 9 | 11.7 | 10.8 |

| | 11 | 10 |
|---|-----|-----|
| 1 | 1.1 | 1.0 |
| 2 | 2.2 | 2.0 |
| 3 | 3.3 | 3.0 |
| 4 | 4.4 | 4.0 |
| 5 | 5.5 | 5.0 |
| 6 | 6.6 | 6.0 |
| 7 | 7.7 | 7.0 |
| 8 | 8.8 | 8.0 |
| 9 | 9.9 | 9.0 |

| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. |
|------------|--------|-----|-----|-----|------|------|------|------|------|------|------------|
| 400 | 60 206 | 217 | 228 | 239 | 249 | 260 | 271 | 282 | 293 | 304 | |
| 01 | 314 | 325 | 336 | 347 | 358 | 369 | 379 | 390 | 401 | 412 | |
| 02 | 423 | 433 | 444 | 455 | 466 | 477 | 487 | 498 | 509 | 520 | |
| 03 | 531 | 541 | 552 | 563 | 574 | 584 | 595 | 606 | 617 | 627 | |
| 04 | 638 | 649 | 660 | 670 | 681 | 692 | 703 | 713 | 724 | 735 | |
| 05 | 746 | 756 | 767 | 778 | 788 | 799 | 810 | 821 | 831 | 842 | |
| 06 | 853 | 863 | 874 | 885 | 895 | 906 | 917 | 927 | 938 | 949 | |
| 07 | 959 | 970 | 981 | 991 | *002 | *013 | *023 | *034 | *045 | *055 | |
| 08 | 61 066 | 077 | 087 | 098 | 109 | 119 | 130 | 140 | 151 | 162 | |
| 09 | 172 | 183 | 194 | 204 | 215 | 225 | 236 | 247 | 257 | 268 | |
| 410 | 278 | 289 | 300 | 310 | 321 | 331 | 342 | 352 | 363 | 374 | |
| 11 | 384 | 395 | 405 | 416 | 426 | 437 | 448 | 458 | 469 | 479 | |
| 12 | 490 | 500 | 511 | 521 | 532 | 542 | 553 | 563 | 574 | 584 | |
| 13 | 595 | 606 | 616 | 627 | 637 | 648 | 658 | 669 | 679 | 690 | |
| 14 | 700 | 711 | 721 | 731 | 742 | 752 | 763 | 773 | 784 | 794 | |
| 15 | 805 | 815 | 826 | 836 | 847 | 857 | 868 | 878 | 888 | 899 | |
| 16 | 909 | 920 | 930 | 941 | 951 | 962 | 972 | 982 | 993 | *003 | |
| 17 | 62 014 | 024 | 034 | 045 | 055 | 066 | 076 | 086 | 097 | 107 | |
| 18 | 118 | 128 | 138 | 149 | 159 | 170 | 180 | 190 | 201 | 211 | |
| 19 | 221 | 232 | 242 | 252 | 263 | 273 | 284 | 294 | 304 | 315 | |
| 420 | 325 | 335 | 346 | 356 | 366 | 377 | 387 | 397 | 408 | 418 | |
| 21 | 428 | 439 | 449 | 459 | 469 | 480 | 490 | 500 | 511 | 521 | |
| 22 | 531 | 542 | 552 | 562 | 572 | 583 | 593 | 603 | 613 | 624 | |
| 23 | 634 | 644 | 655 | 665 | 675 | 685 | 696 | 706 | 716 | 726 | |
| 24 | 737 | 747 | 757 | 767 | 778 | 788 | 798 | 808 | 818 | 829 | |
| 25 | 839 | 849 | 859 | 870 | 880 | 890 | 900 | 910 | 921 | 931 | |
| 26 | 941 | 951 | 961 | 972 | 982 | 992 | *002 | *012 | *022 | *033 | |
| 27 | 63 043 | 053 | 063 | 073 | 083 | 094 | 104 | 114 | 124 | 134 | |
| 28 | 144 | 155 | 165 | 175 | 185 | 195 | 205 | 215 | 225 | 236 | |
| 29 | 246 | 256 | 266 | 276 | 286 | 296 | 306 | 317 | 327 | 337 | |
| 430 | 347 | 357 | 367 | 377 | 387 | 397 | 407 | 417 | 428 | 438 | |
| 31 | 448 | 458 | 468 | 478 | 488 | 498 | 508 | 518 | 528 | 538 | |
| 32 | 548 | 558 | 568 | 579 | 589 | 599 | 609 | 619 | 629 | 639 | |
| 33 | 649 | 659 | 669 | 679 | 689 | 699 | 709 | 719 | 729 | 739 | |
| 34 | 749 | 759 | 769 | 779 | 789 | 799 | 809 | 819 | 829 | 839 | |
| 35 | 849 | 859 | 869 | 879 | 889 | 899 | 909 | 919 | 929 | 939 | |
| 36 | 949 | 959 | 969 | 979 | 988 | 998 | *008 | *018 | *028 | *038 | |
| 37 | 64 048 | 058 | 068 | 078 | 088 | 098 | 108 | 118 | 128 | 137 | |
| 38 | 147 | 157 | 167 | 177 | 187 | 197 | 207 | 217 | 227 | 237 | |
| 39 | 246 | 256 | 266 | 276 | 286 | 296 | 306 | 316 | 326 | 335 | |
| 440 | 345 | 355 | 365 | 375 | 385 | 395 | 404 | 414 | 424 | 434 | |
| 41 | 444 | 454 | 464 | 473 | 483 | 493 | 503 | 513 | 523 | 532 | |
| 42 | 542 | 552 | 562 | 572 | 582 | 591 | 601 | 611 | 621 | 631 | |
| 43 | 640 | 650 | 660 | 670 | 680 | 689 | 699 | 709 | 719 | 729 | |
| 44 | 738 | 748 | 758 | 768 | 777 | 787 | 797 | 807 | 816 | 826 | |
| 45 | 836 | 846 | 856 | 865 | 875 | 885 | 895 | 904 | 914 | 924 | |
| 46 | 933 | 943 | 953 | 963 | 972 | 982 | 992 | *002 | *011 | *021 | |
| 47 | 65 031 | 040 | 050 | 060 | 070 | 079 | 089 | 099 | 108 | 118 | |
| 48 | 128 | 137 | 147 | 157 | 167 | 176 | 186 | 196 | 205 | 215 | |
| 49 | 225 | 234 | 244 | 254 | 263 | 273 | 283 | 292 | 302 | 312 | |
| 450 | 321 | 331 | 341 | 350 | 360 | 369 | 379 | 389 | 398 | 408 | |
| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. |

| | 11 | 10 | 9 |
|---|-----|-----|-----|
| 1 | 1.1 | 1.0 | 0.9 |
| 2 | 2.2 | 2.0 | 1.8 |
| 3 | 3.3 | 3.0 | 2.7 |
| 4 | 4.4 | 4.0 | 3.6 |
| 5 | 5.5 | 5.0 | 4.5 |
| 6 | 6.6 | 6.0 | 5.4 |
| 7 | 7.7 | 7.0 | 6.3 |
| 8 | 8.8 | 8.0 | 7.2 |
| 9 | 9.9 | 9.0 | 8.1 |

| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. |
|-----|--------|------|------|------|------|------|------|------|------|------|------------|
| 450 | 65 321 | 331 | 341 | 350 | 360 | 369 | 379 | 389 | 398 | 408 | |
| 51 | 418 | 427 | 437 | 447 | 456 | 466 | 475 | 485 | 495 | 504 | |
| 52 | 514 | 523 | 533 | 543 | 552 | 562 | 571 | 581 | 591 | 600 | |
| 53 | 610 | 619 | 629 | 639 | 648 | 658 | 667 | 677 | 686 | 696 | |
| 54 | 706 | 715 | 725 | 734 | 744 | 753 | 763 | 772 | 782 | 792 | |
| 55 | 801 | 811 | 820 | 830 | 839 | 849 | 858 | 868 | 877 | 887 | |
| 56 | 896 | 906 | 916 | 925 | 935 | 944 | 954 | 963 | 973 | 982 | |
| 57 | 992 | *001 | *011 | *020 | *030 | *039 | *049 | *058 | *068 | *077 | |
| 58 | 66 087 | 096 | 106 | 115 | 124 | 134 | 143 | 153 | 162 | 172 | |
| 59 | 181 | 191 | 200 | 210 | 219 | 229 | 238 | 247 | 257 | 266 | |
| 460 | 276 | 285 | 295 | 304 | 314 | 323 | 332 | 342 | 351 | 361 | |
| 61 | 370 | 380 | 389 | 398 | 408 | 417 | 427 | 436 | 445 | 455 | |
| 62 | 464 | 474 | 483 | 492 | 502 | 511 | 521 | 530 | 539 | 549 | |
| 63 | 558 | 567 | 577 | 586 | 596 | 605 | 614 | 624 | 633 | 642 | |
| 64 | 652 | 661 | 671 | 680 | 689 | 699 | 708 | 717 | 727 | 736 | |
| 65 | 745 | 755 | 764 | 773 | 783 | 792 | 801 | 811 | 820 | 829 | |
| 66 | 839 | 848 | 857 | 867 | 876 | 885 | 894 | 904 | 913 | 922 | |
| 67 | 932 | 941 | 950 | 960 | 969 | 978 | 987 | 997 | *006 | *015 | |
| 68 | 67 025 | 034 | 043 | 052 | 062 | 071 | 080 | 089 | 099 | 108 | |
| 69 | 117 | 127 | 136 | 145 | 154 | 164 | 173 | 182 | 191 | 201 | |
| 470 | 210 | 219 | 228 | 237 | 247 | 256 | 265 | 274 | 284 | 293 | |
| 71 | 302 | 311 | 321 | 330 | 339 | 348 | 357 | 367 | 376 | 385 | |
| 72 | 394 | 403 | 413 | 422 | 431 | 440 | 449 | 459 | 468 | 477 | |
| 73 | 486 | 495 | 504 | 514 | 523 | 532 | 541 | 550 | 560 | 569 | |
| 74 | 578 | 587 | 596 | 605 | 614 | 624 | 633 | 642 | 651 | 660 | |
| 75 | 669 | 679 | 688 | 697 | 706 | 715 | 724 | 733 | 742 | 752 | |
| 76 | 761 | 770 | 779 | 788 | 797 | 806 | 815 | 825 | 834 | 843 | |
| 77 | 852 | 861 | 870 | 879 | 888 | 897 | 906 | 916 | 925 | 934 | |
| 78 | 943 | 952 | 961 | 970 | 979 | 988 | 997 | *006 | *015 | *024 | |
| 79 | 68 034 | 043 | 052 | 061 | 070 | 079 | 088 | 097 | 106 | 115 | |
| 480 | 124 | 133 | 142 | 151 | 160 | 169 | 178 | 187 | 196 | 205 | |
| 81 | 215 | 224 | 233 | 242 | 251 | 260 | 269 | 278 | 287 | 296 | |
| 82 | 305 | 314 | 323 | 332 | 341 | 350 | 359 | 368 | 377 | 386 | |
| 83 | 395 | 404 | 413 | 422 | 431 | 440 | 449 | 458 | 467 | 476 | |
| 84 | 485 | 494 | 502 | 511 | 520 | 529 | 538 | 547 | 556 | 565 | |
| 85 | 574 | 583 | 592 | 601 | 610 | 619 | 628 | 637 | 646 | 655 | |
| 86 | 664 | 673 | 681 | 690 | 699 | 708 | 717 | 726 | 735 | 744 | |
| 87 | 753 | 762 | 771 | 780 | 789 | 797 | 806 | 815 | 824 | 833 | |
| 88 | 842 | 851 | 860 | 869 | 878 | 886 | 895 | 904 | 913 | 922 | |
| 89 | 931 | 940 | 949 | 958 | 966 | 975 | 984 | 993 | *002 | *011 | |
| 490 | 69 020 | 028 | 037 | 046 | 055 | 064 | 073 | 082 | 090 | 099 | |
| 91 | 108 | 117 | 126 | 135 | 144 | 152 | 161 | 170 | 179 | 188 | |
| 92 | 197 | 205 | 214 | 223 | 232 | 241 | 249 | 258 | 267 | 276 | |
| 93 | 285 | 294 | 302 | 311 | 320 | 329 | 338 | 346 | 355 | 364 | |
| 94 | 373 | 381 | 390 | 399 | 408 | 417 | 425 | 434 | 443 | 452 | |
| 95 | 461 | 469 | 478 | 487 | 496 | 504 | 513 | 522 | 531 | 539 | |
| 96 | 548 | 557 | 566 | 574 | 583 | 592 | 601 | 609 | 618 | 627 | |
| 97 | 636 | 644 | 653 | 662 | 671 | 679 | 688 | 697 | 705 | 714 | |
| 98 | 723 | 732 | 740 | 749 | 758 | 767 | 775 | 784 | 793 | 801 | |
| 99 | 810 | 819 | 827 | 836 | 845 | 854 | 862 | 871 | 880 | 888 | |
| 500 | 897 | 906 | 914 | 923 | 932 | 940 | 949 | 958 | 966 | 975 | |
| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. |

| | 10 | 9 | 8 |
|---|-----|-----|-----|
| 1 | 1.0 | 0.9 | 0.8 |
| 2 | 2.0 | 1.8 | 1.6 |
| 3 | 3.0 | 2.7 | 2.4 |
| 4 | 4.0 | 3.6 | 3.2 |
| 5 | 5.0 | 4.5 | 4.0 |
| 6 | 6.0 | 5.4 | 4.8 |
| 7 | 7.0 | 6.3 | 5.6 |
| 8 | 8.0 | 7.2 | 6.4 |
| 9 | 9.0 | 8.1 | 7.2 |

| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. |
|-----|--------|------|------|------|------|------|------|------|------|------|------------|
| 500 | 69 897 | 906 | 914 | 923 | 932 | 940 | 949 | 958 | 966 | 975 | |
| 01 | 984 | 992 | *001 | *010 | *018 | *027 | *036 | *044 | *053 | *062 | |
| 02 | 70 070 | 079 | 088 | 096 | 105 | 114 | 122 | 131 | 140 | 148 | |
| 03 | 157 | 165 | 174 | 183 | 191 | 200 | 209 | 217 | 226 | 234 | |
| 04 | 243 | 252 | 260 | 269 | 278 | 286 | 295 | 303 | 312 | 321 | |
| 05 | 329 | 338 | 346 | 355 | 364 | 372 | 381 | 389 | 398 | 406 | |
| 06 | 415 | 424 | 432 | 441 | 449 | 458 | 467 | 475 | 484 | 492 | |
| 07 | 501 | 509 | 518 | 526 | 535 | 544 | 552 | 561 | 569 | 578 | |
| 08 | 586 | 595 | 603 | 612 | 621 | 629 | 638 | 646 | 655 | 663 | |
| 09 | 672 | 680 | 689 | 697 | 706 | 714 | 723 | 731 | 740 | 749 | |
| 510 | 757 | 766 | 774 | 783 | 791 | 800 | 808 | 817 | 825 | 834 | |
| 11 | 842 | 851 | 859 | 868 | 876 | 885 | 893 | 902 | 910 | 919 | |
| 12 | 927 | 935 | 944 | 952 | 961 | 969 | 978 | 986 | 995 | *003 | |
| 13 | 71 012 | 020 | 029 | 037 | 046 | 054 | 063 | 071 | 079 | 088 | |
| 14 | 096 | 105 | 113 | 122 | 130 | 139 | 147 | 155 | 164 | 172 | |
| 15 | 181 | 189 | 198 | 206 | 214 | 223 | 231 | 240 | 248 | 257 | |
| 16 | 265 | 273 | 282 | 290 | 299 | 307 | 315 | 324 | 332 | 341 | |
| 17 | 349 | 357 | 366 | 374 | 383 | 391 | 399 | 408 | 416 | 425 | |
| 18 | 433 | 441 | 450 | 458 | 466 | 475 | 483 | 492 | 500 | 508 | |
| 19 | 517 | 525 | 533 | 542 | 550 | 559 | 567 | 575 | 584 | 592 | |
| 520 | 600 | 609 | 617 | 625 | 634 | 642 | 650 | 659 | 667 | 675 | |
| 21 | 684 | 692 | 700 | 709 | 717 | 725 | 734 | 742 | 750 | 759 | |
| 22 | 767 | 775 | 784 | 792 | 800 | 809 | 817 | 825 | 834 | 842 | |
| 23 | 850 | 858 | 867 | 875 | 883 | 892 | 900 | 908 | 917 | 925 | |
| 24 | 933 | 941 | 950 | 958 | 966 | 975 | 983 | 991 | 999 | *008 | |
| 25 | 72 016 | 024 | 032 | 041 | 049 | 057 | 066 | 074 | 082 | 090 | |
| 26 | 099 | 107 | 115 | 123 | 132 | 140 | 148 | 156 | 165 | 173 | |
| 27 | 181 | 189 | 198 | 206 | 214 | 222 | 230 | 239 | 247 | 255 | |
| 28 | 263 | 272 | 280 | 288 | 296 | 304 | 313 | 321 | 329 | 337 | |
| 29 | 346 | 354 | 362 | 370 | 378 | 387 | 395 | 403 | 411 | 419 | |
| 530 | 428 | 436 | 444 | 452 | 460 | 469 | 477 | 485 | 493 | 501 | |
| 31 | 509 | 518 | 526 | 534 | 542 | 550 | 558 | 567 | 575 | 583 | |
| 32 | 591 | 599 | 607 | 616 | 624 | 632 | 640 | 648 | 656 | 665 | |
| 33 | 673 | 681 | 689 | 697 | 705 | 713 | 722 | 730 | 738 | 746 | |
| 34 | 754 | 762 | 770 | 779 | 787 | 795 | 803 | 811 | 819 | 827 | |
| 35 | 835 | 843 | 852 | 860 | 868 | 876 | 884 | 892 | 900 | 908 | |
| 36 | 916 | 925 | 933 | 941 | 949 | 957 | 965 | 973 | 981 | 989 | |
| 37 | 997 | *006 | *014 | *022 | *030 | *038 | *046 | *054 | *062 | *070 | |
| 38 | 73 078 | 086 | 094 | 102 | 111 | 119 | 127 | 135 | 143 | 151 | |
| 39 | 159 | 167 | 175 | 183 | 191 | 199 | 207 | 215 | 223 | 231 | |
| 540 | 239 | 247 | 255 | 263 | 272 | 280 | 288 | 296 | 304 | 312 | |
| 41 | 320 | 328 | 336 | 344 | 352 | 360 | 368 | 376 | 384 | 392 | |
| 42 | 400 | 408 | 416 | 424 | 432 | 440 | 448 | 456 | 464 | 472 | |
| 43 | 480 | 488 | 496 | 504 | 512 | 520 | 528 | 536 | 544 | 552 | |
| 44 | 560 | 568 | 576 | 584 | 592 | 600 | 608 | 616 | 624 | 632 | |
| 45 | 640 | 648 | 656 | 664 | 672 | 679 | 687 | 695 | 703 | 711 | |
| 46 | 719 | 727 | 735 | 743 | 751 | 759 | 767 | 775 | 783 | 791 | |
| 47 | 799 | 807 | 815 | 823 | 830 | 838 | 846 | 854 | 862 | 870 | |
| 48 | 878 | 886 | 894 | 902 | 910 | 918 | 926 | 933 | 941 | 949 | |
| 49 | 957 | 965 | 973 | 981 | 989 | 997 | *005 | *013 | *020 | *028 | |
| 550 | 74 036 | 044 | 052 | 060 | 068 | 076 | 084 | 092 | 099 | 107 | |
| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. |

| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. |
|-----|--------|-----|-----|-----|------|------|------|------|------|------|------------|
| 550 | 74 036 | 044 | 052 | 060 | 068 | 076 | 084 | 092 | 099 | 107 | |
| 51 | 115 | 123 | 131 | 139 | 147 | 155 | 162 | 170 | 178 | 186 | |
| 52 | 194 | 202 | 210 | 218 | 225 | 233 | 241 | 249 | 257 | 265 | |
| 53 | 273 | 280 | 288 | 296 | 304 | 312 | 320 | 327 | 335 | 343 | |
| 54 | 351 | 359 | 367 | 374 | 382 | 390 | 398 | 406 | 414 | 421 | |
| 55 | 429 | 437 | 445 | 453 | 461 | 468 | 476 | 484 | 492 | 500 | |
| 56 | 507 | 515 | 523 | 531 | 539 | 547 | 554 | 562 | 570 | 578 | |
| 57 | 586 | 593 | 601 | 609 | 617 | 624 | 632 | 640 | 648 | 656 | |
| 58 | 663 | 671 | 679 | 687 | 695 | 702 | 710 | 718 | 726 | 733 | |
| 59 | 741 | 749 | 757 | 764 | 772 | 780 | 788 | 796 | 803 | 811 | |
| 560 | 819 | 827 | 834 | 842 | 850 | 858 | 865 | 873 | 881 | 889 | |
| 61 | 896 | 904 | 912 | 920 | 927 | 935 | 943 | 950 | 958 | 966 | |
| 62 | 974 | 981 | 989 | 997 | *005 | *012 | *020 | *028 | *035 | *043 | |
| 63 | 75 051 | 059 | 066 | 074 | 082 | 089 | 097 | 105 | 113 | 120 | |
| 64 | 128 | 136 | 143 | 151 | 159 | 166 | 174 | 182 | 189 | 197 | |
| 65 | 205 | 213 | 220 | 228 | 236 | 243 | 251 | 259 | 266 | 274 | |
| 66 | 282 | 289 | 297 | 305 | 312 | 320 | 328 | 335 | 343 | 351 | |
| 67 | 358 | 366 | 374 | 381 | 389 | 397 | 404 | 412 | 420 | 427 | |
| 68 | 435 | 442 | 450 | 458 | 465 | 473 | 481 | 488 | 496 | 504 | |
| 69 | 511 | 519 | 526 | 534 | 542 | 549 | 557 | 565 | 572 | 580 | |
| 570 | 587 | 595 | 603 | 610 | 618 | 626 | 633 | 641 | 648 | 656 | |
| 71 | 664 | 671 | 679 | 686 | 694 | 702 | 709 | 717 | 724 | 732 | |
| 72 | 740 | 747 | 755 | 762 | 770 | 778 | 785 | 793 | 800 | 808 | |
| 73 | 815 | 823 | 831 | 838 | 846 | 853 | 861 | 868 | 876 | 884 | |
| 74 | 891 | 899 | 906 | 914 | 921 | 929 | 937 | 944 | 952 | 959 | |
| 75 | 967 | 974 | 982 | 989 | 997 | *005 | *012 | *020 | *027 | *035 | |
| 76 | 76 042 | 050 | 057 | 065 | 072 | 080 | 087 | 095 | 103 | 110 | |
| 77 | 118 | 125 | 133 | 140 | 148 | 155 | 163 | 170 | 178 | 185 | |
| 78 | 193 | 200 | 208 | 215 | 223 | 230 | 238 | 245 | 253 | 260 | |
| 79 | 268 | 275 | 283 | 290 | 298 | 305 | 313 | 320 | 328 | 335 | |
| 580 | 343 | 350 | 358 | 365 | 373 | 380 | 388 | 395 | 403 | 410 | |
| 81 | 418 | 425 | 433 | 440 | 448 | 455 | 462 | 470 | 477 | 485 | |
| 82 | 492 | 500 | 507 | 515 | 522 | 530 | 537 | 545 | 552 | 559 | |
| 83 | 567 | 574 | 582 | 589 | 597 | 604 | 612 | 619 | 626 | 634 | |
| 84 | 641 | 649 | 656 | 664 | 671 | 678 | 686 | 693 | 701 | 708 | |
| 85 | 716 | 723 | 730 | 738 | 745 | 753 | 760 | 768 | 775 | 782 | |
| 86 | 790 | 797 | 805 | 812 | 819 | 827 | 834 | 842 | 849 | 856 | |
| 87 | 864 | 871 | 879 | 886 | 893 | 901 | 908 | 916 | 923 | 930 | |
| 88 | 938 | 945 | 953 | 960 | 967 | 975 | 982 | 989 | 997 | *004 | |
| 89 | 77 012 | 019 | 026 | 034 | 041 | 048 | 056 | 063 | 070 | 078 | |
| 590 | 085 | 093 | 100 | 107 | 115 | 122 | 129 | 137 | 144 | 151 | |
| 91 | 159 | 166 | 173 | 181 | 188 | 195 | 203 | 210 | 217 | 225 | |
| 92 | 232 | 240 | 247 | 254 | 262 | 269 | 276 | 283 | 291 | 298 | |
| 93 | 305 | 313 | 320 | 327 | 335 | 342 | 349 | 357 | 364 | 371 | |
| 94 | 379 | 386 | 393 | 401 | 408 | 415 | 422 | 430 | 437 | 444 | |
| 95 | 452 | 459 | 466 | 474 | 481 | 488 | 495 | 503 | 510 | 517 | |
| 96 | 525 | 532 | 539 | 546 | 554 | 561 | 568 | 576 | 583 | 590 | |
| 97 | 597 | 605 | 612 | 619 | 627 | 634 | 641 | 648 | 656 | 663 | |
| 98 | 670 | 677 | 685 | 692 | 699 | 706 | 714 | 721 | 728 | 735 | |
| 99 | 743 | 750 | 757 | 764 | 772 | 779 | 786 | 793 | 801 | 808 | |
| 600 | 815 | 822 | 830 | 837 | 844 | 851 | 859 | 866 | 873 | 880 | |
| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. |

| | 8 | 7 |
|---|-----|-----|
| 1 | 0.8 | 0.7 |
| 2 | 1.6 | 1.4 |
| 3 | 2.4 | 2.1 |
| 4 | 3.2 | 2.8 |
| 5 | 4.0 | 3.5 |
| 6 | 4.8 | 4.2 |
| 7 | 5.6 | 4.9 |
| 8 | 6.4 | 5.6 |
| 9 | 7.2 | 6.3 |

| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. |
|-----|--------|-----|-----|-----|-----|-----|------|------|------|------|---------------|
| 600 | 77 815 | 822 | 830 | 837 | 844 | 851 | 859 | 866 | 873 | 880 | |
| 01 | 887 | 895 | 902 | 909 | 916 | 924 | 931 | 938 | 945 | 952 | |
| 02 | 960 | 967 | 974 | 981 | 988 | 996 | *003 | *010 | *017 | *025 | |
| 03 | 78 032 | 039 | 046 | 053 | 061 | 068 | 075 | 082 | 089 | 097 | |
| 04 | 104 | 111 | 118 | 125 | 132 | 140 | 147 | 154 | 161 | 168 | |
| 05 | 176 | 183 | 190 | 197 | 204 | 211 | 219 | 226 | 233 | 240 | |
| 06 | 247 | 254 | 262 | 269 | 276 | 283 | 290 | 297 | 305 | 312 | |
| 07 | 319 | 326 | 333 | 340 | 347 | 355 | 362 | 369 | 376 | 383 | |
| 08 | 390 | 398 | 405 | 412 | 419 | 426 | 433 | 440 | 447 | 455 | |
| 09 | 462 | 469 | 476 | 483 | 490 | 497 | 504 | 512 | 519 | 526 | |
| 610 | 533 | 540 | 547 | 554 | 561 | 569 | 576 | 583 | 590 | 597 | |
| 11 | 604 | 611 | 618 | 625 | 633 | 640 | 647 | 654 | 661 | 668 | |
| 12 | 675 | 682 | 689 | 696 | 704 | 711 | 718 | 725 | 732 | 739 | |
| 13 | 746 | 753 | 760 | 767 | 774 | 781 | 789 | 796 | 803 | 810 | |
| 14 | 817 | 824 | 831 | 838 | 845 | 852 | 859 | 866 | 873 | 880 | |
| 15 | 888 | 895 | 902 | 909 | 916 | 923 | 930 | 937 | 944 | 951 | |
| 16 | 958 | 965 | 972 | 979 | 986 | 993 | *000 | *007 | *014 | *021 | |
| 17 | 79 029 | 036 | 043 | 050 | 057 | 064 | 071 | 078 | 085 | 092 | |
| 18 | 099 | 106 | 113 | 120 | 127 | 134 | 141 | 148 | 155 | 162 | |
| 19 | 169 | 176 | 183 | 190 | 197 | 204 | 211 | 218 | 225 | 232 | |
| 620 | 239 | 246 | 253 | 260 | 267 | 274 | 281 | 288 | 295 | 302 | |
| 21 | 309 | 316 | 323 | 330 | 337 | 344 | 351 | 358 | 365 | 372 | |
| 22 | 379 | 386 | 393 | 400 | 407 | 414 | 421 | 428 | 435 | 442 | 1 0.8 0.7 0.6 |
| 23 | 449 | 456 | 463 | 470 | 477 | 484 | 491 | 498 | 505 | 511 | 2 1.6 1.4 1.2 |
| 24 | 518 | 525 | 532 | 539 | 546 | 553 | 560 | 567 | 574 | 581 | 3 2.4 2.1 1.8 |
| 25 | 588 | 595 | 602 | 609 | 616 | 623 | 630 | 637 | 644 | 650 | 4 3.2 2.8 2.4 |
| 26 | 657 | 664 | 671 | 678 | 685 | 692 | 699 | 706 | 713 | 720 | 5 4.0 3.5 3.0 |
| 27 | 727 | 734 | 741 | 748 | 754 | 761 | 768 | 775 | 782 | 789 | 6 4.8 4.2 3.6 |
| 28 | 796 | 803 | 810 | 817 | 824 | 831 | 837 | 844 | 851 | 858 | 7 5.6 4.9 4.2 |
| 29 | 865 | 872 | 879 | 886 | 893 | 900 | 906 | 913 | 920 | 927 | 8 6.4 5.6 4.8 |
| 630 | 934 | 941 | 948 | 955 | 962 | 969 | 975 | 982 | 989 | 996 | 9 7.2 6.3 5.4 |
| 31 | 80 003 | 010 | 017 | 024 | 030 | 037 | 044 | 051 | 058 | 065 | |
| 32 | 072 | 079 | 085 | 092 | 099 | 106 | 113 | 120 | 127 | 134 | |
| 33 | 140 | 147 | 154 | 161 | 168 | 175 | 182 | 188 | 195 | 202 | |
| 34 | 209 | 216 | 223 | 229 | 236 | 243 | 250 | 257 | 264 | 271 | |
| 35 | 277 | 284 | 291 | 298 | 305 | 312 | 318 | 325 | 332 | 339 | |
| 36 | 346 | 353 | 359 | 366 | 373 | 380 | 387 | 393 | 400 | 407 | |
| 37 | 414 | 421 | 428 | 434 | 441 | 448 | 455 | 462 | 468 | 475 | |
| 38 | 482 | 489 | 496 | 502 | 509 | 516 | 523 | 530 | 536 | 543 | |
| 39 | 550 | 557 | 564 | 570 | 577 | 584 | 591 | 598 | 604 | 611 | |
| 640 | 618 | 625 | 632 | 638 | 645 | 652 | 659 | 665 | 672 | 679 | |
| 41 | 686 | 693 | 699 | 706 | 713 | 720 | 726 | 733 | 740 | 747 | |
| 42 | 754 | 760 | 767 | 774 | 781 | 787 | 794 | 801 | 808 | 814 | |
| 43 | 821 | 828 | 835 | 841 | 848 | 855 | 862 | 868 | 875 | 882 | |
| 44 | 889 | 895 | 902 | 909 | 916 | 922 | 929 | 936 | 943 | 949 | |
| 45 | 956 | 963 | 969 | 976 | 983 | 990 | 996 | *003 | *010 | *017 | |
| 46 | 81 023 | 030 | 037 | 043 | 050 | 057 | 064 | 070 | 077 | 084 | |
| 47 | 090 | 097 | 104 | 111 | 117 | 124 | 131 | 137 | 144 | 151 | |
| 48 | 158 | 164 | 171 | 178 | 184 | 191 | 198 | 204 | 211 | 218 | |
| 49 | 224 | 231 | 238 | 245 | 251 | 258 | 265 | 271 | 278 | 285 | |
| 650 | 291 | 298 | 305 | 311 | 318 | 325 | 331 | 338 | 345 | 351 | |
| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. |

| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | | | |
|-----|--------|------|------|------|------|------|------|------|------|------|---|--|--|--|--|
| 650 | 81 291 | 298 | 305 | 311 | 318 | 325 | 331 | 338 | 345 | 351 | | | | | |
| 51 | 358 | 365 | 371 | 378 | 385 | 391 | 398 | 405 | 411 | 418 | | | | | |
| 52 | 425 | 431 | 438 | 445 | 451 | 458 | 465 | 471 | 478 | 485 | | | | | |
| 53 | 491 | 498 | 505 | 511 | 518 | 525 | 531 | 538 | 544 | 551 | | | | | |
| 54 | 558 | 564 | 571 | 578 | 584 | 591 | 598 | 604 | 611 | 617 | | | | | |
| 55 | 624 | 631 | 637 | 644 | 651 | 657 | 664 | 671 | 677 | 684 | | | | | |
| 56 | 690 | 697 | 704 | 710 | 717 | 723 | 730 | 737 | 743 | 750 | | | | | |
| 57 | 757 | 763 | 770 | 776 | 783 | 790 | 796 | 803 | 809 | 816 | | | | | |
| 58 | 823 | 829 | 836 | 842 | 849 | 856 | 862 | 869 | 875 | 882 | | | | | |
| 59 | 889 | 895 | 902 | 908 | 915 | 921 | 928 | 935 | 941 | 948 | | | | | |
| 660 | 954 | 961 | 968 | 974 | 981 | 987 | 994 | *000 | *007 | *014 | | | | | |
| 61 | 82 020 | 027 | 033 | 040 | 046 | 053 | 060 | 066 | 073 | 079 | | | | | |
| 62 | 086 | 092 | 099 | 105 | 112 | 119 | 125 | 132 | 138 | 145 | | | | | |
| 63 | 151 | 158 | 164 | 171 | 178 | 184 | 191 | 197 | 204 | 210 | | | | | |
| 64 | 217 | 223 | 230 | 236 | 243 | 249 | 256 | 263 | 269 | 276 | | | | | |
| 65 | 282 | 289 | 295 | 302 | 308 | 315 | 321 | 328 | 334 | 341 | | | | | |
| 66 | 347 | 354 | 360 | 367 | 373 | 380 | 387 | 393 | 400 | 406 | | | | | |
| 67 | 413 | 419 | 426 | 432 | 439 | 445 | 452 | 458 | 465 | 471 | | | | | |
| 68 | 478 | 484 | 491 | 497 | 504 | 510 | 517 | 523 | 530 | 536 | | | | | |
| 69 | 543 | 549 | 556 | 562 | 569 | 575 | 582 | 588 | 595 | 601 | | | | | |
| 670 | 607 | 614 | 620 | 627 | 633 | 640 | 646 | 653 | 659 | 666 | | | | | |
| 71 | 672 | 679 | 685 | 692 | 698 | 705 | 711 | 718 | 724 | 730 | 1 2 3 4 5 6 7 8 9 | 7 0.7 1.4 2.1 2.8 3.5 4.2 4.9 5.6 6.3 | 6 0.6 1.2 1.8 2.4 3.0 3.6 4.2 4.8 5.4 | | |
| 72 | 737 | 743 | 750 | 756 | 763 | 769 | 776 | 782 | 789 | 795 | | | | | |
| 73 | 802 | 808 | 814 | 821 | 827 | 834 | 840 | 847 | 853 | 860 | | | | | |
| 74 | 866 | 872 | 879 | 885 | 892 | 898 | 905 | 911 | 918 | 924 | | | | | |
| 75 | 930 | 937 | 943 | 950 | 956 | 963 | 969 | 975 | 982 | 988 | | | | | |
| 76 | 995 | *001 | *008 | *014 | *020 | *027 | *033 | *040 | *046 | *052 | | | | | |
| 77 | 83 059 | 065 | 072 | 078 | 085 | 091 | 097 | 104 | 110 | 117 | | | | | |
| 78 | 123 | 129 | 136 | 142 | 149 | 155 | 161 | 168 | 174 | 181 | | | | | |
| 79 | 187 | 193 | 200 | 206 | 213 | 219 | 225 | 232 | 238 | 245 | | | | | |
| 680 | 251 | 257 | 264 | 270 | 276 | 283 | 289 | 296 | 302 | 308 | | | | | |
| 81 | 315 | 321 | 327 | 334 | 340 | 347 | 353 | 359 | 366 | 372 | | | | | |
| 82 | 378 | 385 | 391 | 398 | 404 | 410 | 417 | 423 | 429 | 436 | | | | | |
| 83 | 442 | 448 | 455 | 461 | 467 | 474 | 480 | 487 | 493 | 499 | | | | | |
| 84 | 506 | 512 | 518 | 525 | 531 | 537 | 544 | 550 | 556 | 563 | | | | | |
| 85 | 569 | 575 | 582 | 588 | 594 | 601 | 607 | 613 | 620 | 626 | | | | | |
| 86 | 632 | 639 | 645 | 651 | 658 | 664 | 670 | 677 | 683 | 689 | | | | | |
| 87 | 696 | 702 | 708 | 715 | 721 | 727 | 734 | 740 | 746 | 753 | | | | | |
| 88 | 759 | 765 | 771 | 778 | 784 | 790 | 797 | 803 | 809 | 816 | | | | | |
| 89 | 822 | 828 | 835 | 841 | 847 | 853 | 860 | 866 | 872 | 879 | | | | | |
| 690 | 885 | 891 | 897 | 904 | 910 | 916 | 923 | 929 | 935 | 942 | | | | | |
| 91 | 948 | 954 | 960 | 967 | 973 | 979 | 985 | 992 | 998 | *004 | | | | | |
| 92 | 84 011 | 017 | 023 | 029 | 036 | 042 | 048 | 055 | 061 | 067 | | | | | |
| 93 | 073 | 080 | 086 | 092 | 098 | 105 | 111 | 117 | 123 | 130 | | | | | |
| 94 | 136 | 142 | 148 | 155 | 161 | 167 | 173 | 180 | 186 | 192 | | | | | |
| 95 | 198 | 205 | 211 | 217 | 223 | 230 | 236 | 242 | 248 | 255 | | | | | |
| 96 | 261 | 267 | 273 | 280 | 286 | 292 | 298 | 305 | 311 | 317 | | | | | |
| 97 | 323 | 330 | 336 | 342 | 348 | 354 | 361 | 367 | 373 | 379 | | | | | |
| 98 | 386 | 392 | 398 | 404 | 410 | 417 | 423 | 429 | 435 | 442 | | | | | |
| 99 | 448 | 454 | 460 | 466 | 473 | 479 | 485 | 491 | 497 | 504 | | | | | |
| 700 | 510 | 516 | 522 | 528 | 535 | 541 | 547 | 553 | 559 | 566 | | | | | |
| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | | | |

| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | | | | | |
|-----|--------|-----|-----|-----|------|------|------|------|------|------|------------|---|---|---|--|--|--|
| 700 | 84 510 | 516 | 522 | 528 | 535 | 541 | 547 | 553 | 559 | 566 | | | | | | | |
| 01 | 572 | 578 | 584 | 590 | 597 | 603 | 609 | 615 | 621 | 628 | | | | | | | |
| 02 | 634 | 640 | 646 | 652 | 658 | 665 | 671 | 677 | 683 | 689 | | | | | | | |
| 03 | 696 | 702 | 708 | 714 | 720 | 726 | 733 | 739 | 745 | 751 | | | | | | | |
| 04 | 757 | 763 | 770 | 776 | 782 | 788 | 794 | 800 | 807 | 813 | | | | | | | |
| 05 | 819 | 825 | 831 | 837 | 844 | 850 | 856 | 862 | 868 | 874 | | | | | | | |
| 06 | 880 | 887 | 893 | 899 | 905 | 911 | 917 | 924 | 930 | 936 | | | | | | | |
| 07 | 942 | 948 | 954 | 960 | 967 | 973 | 979 | 985 | 991 | 997 | | | | | | | |
| 08 | 85 003 | 009 | 016 | 022 | 028 | 034 | 040 | 046 | 052 | 058 | | | | | | | |
| 09 | 065 | 071 | 077 | 083 | 089 | 095 | 101 | 107 | 114 | 120 | | | | | | | |
| 710 | 126 | 132 | 138 | 144 | 150 | 156 | 163 | 169 | 175 | 181 | | | | | | | |
| 11 | 187 | 193 | 199 | 205 | 211 | 217 | 224 | 230 | 236 | 242 | | | | | | | |
| 12 | 248 | 254 | 260 | 266 | 272 | 278 | 285 | 291 | 297 | 303 | | | | | | | |
| 13 | 309 | 315 | 321 | 327 | 333 | 339 | 345 | 352 | 358 | 364 | | | | | | | |
| 14 | 370 | 376 | 382 | 388 | 394 | 400 | 406 | 412 | 418 | 425 | | | | | | | |
| 15 | 431 | 437 | 443 | 449 | 455 | 461 | 467 | 473 | 479 | 485 | | | | | | | |
| 16 | 491 | 497 | 503 | 509 | 516 | 522 | 528 | 534 | 540 | 546 | | | | | | | |
| 17 | 552 | 558 | 564 | 570 | 576 | 582 | 588 | 594 | 600 | 606 | | | | | | | |
| 18 | 612 | 618 | 625 | 631 | 637 | 643 | 649 | 655 | 661 | 667 | | | | | | | |
| 19 | 673 | 679 | 685 | 691 | 697 | 703 | 709 | 715 | 721 | 727 | | | | | | | |
| 720 | 733 | 739 | 745 | 751 | 757 | 763 | 769 | 775 | 781 | 788 | | | | | | | |
| 21 | 794 | 800 | 806 | 812 | 818 | 824 | 830 | 836 | 842 | 848 | 1 | 7 | 6 | 5 | | | |
| 22 | 854 | 860 | 866 | 872 | 878 | 884 | 890 | 896 | 902 | 908 | | | | | | | |
| 23 | 914 | 920 | 926 | 932 | 938 | 944 | 950 | 956 | 962 | 968 | | | | | | | |
| 24 | 974 | 980 | 986 | 992 | 998 | *004 | *010 | *016 | *022 | *028 | | | | | | | |
| 25 | 86 034 | 040 | 046 | 052 | 058 | 064 | 070 | 076 | 082 | 088 | | | | | | | |
| 26 | 094 | 100 | 106 | 112 | 118 | 124 | 130 | 136 | 141 | 147 | | | | | | | |
| 27 | 153 | 159 | 165 | 171 | 177 | 183 | 189 | 195 | 201 | 207 | | | | | | | |
| 28 | 213 | 219 | 225 | 231 | 237 | 243 | 249 | 255 | 261 | 267 | | | | | | | |
| 29 | 273 | 279 | 285 | 291 | 297 | 303 | 308 | 314 | 320 | 326 | | | | | | | |
| 730 | 332 | 338 | 344 | 350 | 356 | 362 | 368 | 374 | 380 | 386 | | | | | | | |
| 31 | 392 | 398 | 404 | 410 | 415 | 421 | 427 | 433 | 439 | 445 | | | | | | | |
| 32 | 451 | 457 | 463 | 469 | 475 | 481 | 487 | 493 | 499 | 504 | | | | | | | |
| 33 | 510 | 516 | 522 | 528 | 534 | 540 | 546 | 552 | 558 | 564 | | | | | | | |
| 34 | 570 | 576 | 581 | 587 | 593 | 599 | 605 | 611 | 617 | 623 | | | | | | | |
| 35 | 629 | 635 | 641 | 646 | 652 | 658 | 664 | 670 | 676 | 682 | | | | | | | |
| 36 | 688 | 694 | 700 | 705 | 711 | 717 | 723 | 729 | 735 | 741 | | | | | | | |
| 37 | 747 | 753 | 759 | 764 | 770 | 776 | 782 | 788 | 794 | 800 | | | | | | | |
| 38 | 806 | 812 | 817 | 823 | 829 | 835 | 841 | 847 | 853 | 859 | | | | | | | |
| 39 | 864 | 870 | 876 | 882 | 888 | 894 | 900 | 906 | 911 | 917 | | | | | | | |
| 740 | 923 | 929 | 935 | 941 | 947 | 953 | 958 | 964 | 970 | 976 | | | | | | | |
| 41 | 982 | 988 | 994 | 999 | *005 | *011 | *017 | *023 | *029 | *035 | | | | | | | |
| 42 | 87 040 | 046 | 052 | 058 | 064 | 070 | 075 | 081 | 087 | 093 | | | | | | | |
| 43 | 099 | 105 | 111 | 116 | 122 | 128 | 134 | 140 | 146 | 151 | | | | | | | |
| 44 | 157 | 163 | 169 | 175 | 181 | 186 | 192 | 198 | 204 | 210 | | | | | | | |
| 45 | 216 | 221 | 227 | 233 | 239 | 245 | 251 | 256 | 262 | 268 | | | | | | | |
| 46 | 274 | 280 | 286 | 291 | 297 | 303 | 309 | 315 | 320 | 326 | | | | | | | |
| 47 | 332 | 338 | 344 | 349 | 355 | 361 | 367 | 373 | 379 | 384 | | | | | | | |
| 48 | 390 | 396 | 402 | 408 | 413 | 419 | 425 | 431 | 437 | 442 | | | | | | | |
| 49 | 448 | 454 | 460 | 466 | 471 | 477 | 483 | 489 | 495 | 500 | | | | | | | |
| 750 | 506 | 512 | 518 | 523 | 529 | 535 | 541 | 547 | 552 | 558 | | | | | | | |
| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | | | | | |

| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | |
|-----|--------|-----|-----|------|------|------|------|------|------|------|------------|--|--|
| 750 | 87 506 | 512 | 518 | 523 | 529 | 535 | 541 | 547 | 552 | 558 | | | |
| 51 | 564 | 570 | 576 | 581 | 587 | 593 | 599 | 604 | 610 | 616 | | | |
| 52 | 622 | 628 | 633 | 639 | 645 | 651 | 656 | 662 | 668 | 674 | | | |
| 53 | 679 | 685 | 691 | 697 | 703 | 708 | 714 | 720 | 726 | 731 | | | |
| 54 | 737 | 743 | 749 | 754 | 760 | 766 | 772 | 777 | 783 | 789 | | | |
| 55 | 795 | 800 | 806 | 812 | 818 | 823 | 829 | 835 | 841 | 846 | | | |
| 56 | 852 | 858 | 864 | 869 | 875 | 881 | 887 | 892 | 898 | 904 | | | |
| 57 | 910 | 915 | 921 | 927 | 933 | 938 | 944 | 950 | 955 | 961 | | | |
| 58 | 967 | 973 | 978 | 984 | 990 | 996 | *001 | *007 | *013 | *018 | | | |
| 59 | 88 024 | 030 | 036 | 041 | 047 | 053 | 058 | 064 | 070 | 076 | | | |
| 760 | 081 | 087 | 093 | 098 | 104 | 110 | 116 | 121 | 127 | 133 | | | |
| 61 | 138 | 144 | 150 | 156 | 161 | 167 | 173 | 178 | 184 | 190 | | | |
| 62 | 195 | 201 | 207 | 213 | 218 | 224 | 230 | 235 | 241 | 247 | | | |
| 63 | 252 | 258 | 264 | 270 | 275 | 281 | 287 | 292 | 298 | 304 | | | |
| 64 | 309 | 315 | 321 | 326 | 332 | 338 | 343 | 349 | 355 | 360 | | | |
| 65 | 366 | 372 | 377 | 383 | 389 | 395 | 400 | 406 | 412 | 417 | | | |
| 66 | 423 | 429 | 434 | 440 | 446 | 451 | 457 | 463 | 468 | 474 | | | |
| 67 | 480 | 485 | 491 | 497 | 502 | 508 | 513 | 519 | 525 | 530 | | | |
| 68 | 536 | 542 | 547 | 553 | 559 | 564 | 570 | 576 | 581 | 587 | | | |
| 69 | 593 | 598 | 604 | 610 | 615 | 621 | 627 | 632 | 638 | 643 | | | |
| 770 | 649 | 655 | 660 | 666 | 672 | 677 | 683 | 689 | 694 | 700 | | | |
| 71 | 705 | 711 | 717 | 722 | 728 | 734 | 739 | 745 | 750 | 756 | | | |
| 72 | 762 | 767 | 773 | 779 | 784 | 790 | 795 | 801 | 807 | 812 | | | |
| 73 | 818 | 824 | 829 | 835 | 840 | 846 | 852 | 857 | 863 | 868 | | | |
| 74 | 874 | 880 | 885 | 891 | 897 | 902 | 908 | 913 | 919 | 925 | | | |
| 75 | 930 | 936 | 941 | 947 | 953 | 958 | 964 | 969 | 975 | 981 | | | |
| 76 | 986 | 992 | 997 | *003 | *009 | *014 | *020 | *025 | *031 | *037 | | | |
| 77 | 89 042 | 048 | 053 | 059 | 064 | 070 | 076 | 081 | 087 | 092 | | | |
| 78 | 098 | 104 | 109 | 115 | 120 | 126 | 131 | 137 | 143 | 148 | | | |
| 79 | 154 | 159 | 165 | 170 | 176 | 182 | 187 | 193 | 198 | 204 | | | |
| 780 | 209 | 215 | 221 | 226 | 232 | 237 | 243 | 248 | 254 | 260 | | | |
| 81 | 265 | 271 | 276 | 282 | 287 | 293 | 298 | 304 | 310 | 315 | | | |
| 82 | 321 | 326 | 332 | 337 | 343 | 348 | 354 | 360 | 365 | 371 | | | |
| 83 | 376 | 382 | 387 | 393 | 398 | 404 | 409 | 415 | 421 | 426 | | | |
| 84 | 432 | 437 | 443 | 448 | 454 | 459 | 465 | 470 | 476 | 481 | | | |
| 85 | 487 | 492 | 498 | 504 | 509 | 515 | 520 | 526 | 531 | 537 | | | |
| 86 | 542 | 548 | 553 | 559 | 564 | 570 | 575 | 581 | 586 | 592 | | | |
| 87 | 597 | 603 | 609 | 614 | 620 | 625 | 631 | 636 | 642 | 647 | | | |
| 88 | 653 | 658 | 664 | 669 | 675 | 680 | 686 | 691 | 697 | 702 | | | |
| 89 | 708 | 713 | 719 | 724 | 730 | 735 | 741 | 746 | 752 | 757 | | | |
| 790 | 763 | 768 | 774 | 779 | 785 | 790 | 796 | 801 | 807 | 812 | | | |
| 91 | 818 | 823 | 829 | 834 | 840 | 845 | 851 | 856 | 862 | 867 | | | |
| 92 | 873 | 878 | 883 | 889 | 894 | 900 | 905 | 911 | 916 | 922 | | | |
| 93 | 927 | 933 | 938 | 944 | 949 | 955 | 960 | 966 | 971 | 977 | | | |
| 94 | 982 | 988 | 993 | 998 | *004 | *009 | *015 | *020 | *026 | *031 | | | |
| 95 | 90 037 | 042 | 048 | 053 | 059 | 064 | 069 | 075 | 080 | 086 | | | |
| 96 | 091 | 097 | 102 | 108 | 113 | 119 | 124 | 129 | 135 | 140 | | | |
| 97 | 146 | 151 | 157 | 162 | 168 | 173 | 179 | 184 | 189 | 195 | | | |
| 98 | 200 | 206 | 211 | 217 | 222 | 227 | 233 | 238 | 244 | 249 | | | |
| 99 | 255 | 260 | 266 | 271 | 276 | 282 | 287 | 293 | 298 | 304 | | | |
| 800 | 309 | 314 | 320 | 325 | 331 | 336 | 342 | 347 | 352 | 358 | | | |
| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | |

| | 6 | 5 |
|---|-----|-----|
| 1 | 0.6 | 0.5 |
| 2 | 1.2 | 1.0 |
| 3 | 1.8 | 1.5 |
| 4 | 2.4 | 2.0 |
| 5 | 3.0 | 2.5 |
| 6 | 3.6 | 3.0 |
| 7 | 4.2 | 3.5 |
| 8 | 4.8 | 4.0 |
| 9 | 5.4 | 4.5 |

| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | |
|------------|--------|-----|-----|-----|-----|-----|-----|-----|------|------|------------|--|--|
| 800 | 90 309 | 314 | 320 | 325 | 331 | 336 | 342 | 347 | 352 | 358 | | | |
| 01 | 363 | 369 | 374 | 380 | 385 | 390 | 396 | 401 | 407 | 412 | | | |
| 02 | 417 | 423 | 428 | 434 | 439 | 445 | 450 | 455 | 461 | 466 | | | |
| 03 | 472 | 477 | 482 | 488 | 493 | 499 | 504 | 509 | 515 | 520 | | | |
| 04 | 526 | 531 | 536 | 542 | 547 | 553 | 558 | 563 | 569 | 574 | | | |
| 05 | 580 | 585 | 590 | 596 | 601 | 607 | 612 | 617 | 623 | 628 | | | |
| 06 | 634 | 639 | 644 | 650 | 655 | 660 | 666 | 671 | 677 | 682 | | | |
| 07 | 687 | 693 | 698 | 703 | 709 | 714 | 720 | 725 | 730 | 736 | | | |
| 08 | 741 | 747 | 752 | 757 | 763 | 768 | 773 | 779 | 784 | 789 | | | |
| 09 | 795 | 800 | 806 | 811 | 816 | 822 | 827 | 832 | 838 | 843 | | | |
| 810 | 849 | 854 | 859 | 865 | 870 | 875 | 881 | 886 | 891 | 897 | | | |
| 11 | 902 | 907 | 913 | 918 | 924 | 929 | 934 | 940 | 945 | 950 | | | |
| 12 | 956 | 961 | 966 | 972 | 977 | 982 | 988 | 993 | 998 | *004 | | | |
| 13 | 91 009 | 014 | 020 | 025 | 030 | 036 | 041 | 046 | 052 | 057 | | | |
| 14 | 062 | 068 | 073 | 078 | 084 | 089 | 094 | 100 | 105 | 110 | | | |
| 15 | 116 | 121 | 126 | 132 | 137 | 142 | 148 | 153 | 158 | 164 | | | |
| 16 | 169 | 174 | 180 | 185 | 190 | 196 | 201 | 206 | 212 | 217 | | | |
| 17 | 222 | 228 | 233 | 238 | 243 | 249 | 254 | 259 | 265 | 270 | | | |
| 18 | 275 | 281 | 286 | 291 | 297 | 302 | 307 | 312 | 318 | 323 | | | |
| 19 | 328 | 334 | 339 | 344 | 350 | 355 | 360 | 365 | 371 | 376 | | | |
| 820 | 381 | 387 | 392 | 397 | 403 | 408 | 413 | 418 | 424 | 429 | | | |
| 21 | 434 | 440 | 445 | 450 | 455 | 461 | 466 | 471 | 477 | 482 | | | |
| 22 | 487 | 492 | 498 | 503 | 508 | 514 | 519 | 524 | 529 | 535 | | | |
| 23 | 540 | 545 | 551 | 556 | 561 | 566 | 572 | 577 | 582 | 587 | | | |
| 24 | 593 | 598 | 603 | 609 | 614 | 619 | 624 | 630 | 635 | 640 | | | |
| 25 | 645 | 651 | 656 | 661 | 666 | 672 | 677 | 682 | 687 | 693 | | | |
| 26 | 698 | 703 | 709 | 714 | 719 | 724 | 730 | 735 | 740 | 745 | | | |
| 27 | 751 | 756 | 761 | 766 | 772 | 777 | 782 | 787 | 793 | 798 | | | |
| 28 | 803 | 808 | 814 | 819 | 824 | 829 | 834 | 840 | 845 | 850 | | | |
| 29 | 855 | 861 | 866 | 871 | 876 | 882 | 887 | 892 | 897 | 903 | | | |
| 830 | 908 | 913 | 918 | 924 | 929 | 934 | 939 | 944 | 950 | 955 | | | |
| 31 | 960 | 965 | 971 | 976 | 981 | 986 | 991 | 997 | *002 | *007 | | | |
| 32 | 92 012 | 018 | 023 | 028 | 033 | 038 | 044 | 049 | 054 | 059 | | | |
| 33 | 065 | 070 | 075 | 080 | 085 | 091 | 096 | 101 | 106 | 111 | | | |
| 34 | 117 | 122 | 127 | 132 | 137 | 143 | 148 | 153 | 158 | 163 | | | |
| 35 | 169 | 174 | 179 | 184 | 189 | 195 | 200 | 205 | 210 | 215 | | | |
| 36 | 221 | 226 | 231 | 236 | 241 | 247 | 252 | 257 | 262 | 267 | | | |
| 37 | 273 | 278 | 283 | 288 | 293 | 298 | 304 | 309 | 314 | 319 | | | |
| 38 | 324 | 330 | 335 | 340 | 345 | 350 | 355 | 361 | 366 | 371 | | | |
| 39 | 376 | 381 | 387 | 392 | 397 | 402 | 407 | 412 | 418 | 423 | | | |
| 840 | 428 | 433 | 438 | 443 | 449 | 454 | 459 | 464 | 469 | 474 | | | |
| 41 | 480 | 485 | 490 | 495 | 500 | 505 | 511 | 516 | 521 | 526 | | | |
| 42 | 531 | 536 | 542 | 547 | 552 | 557 | 562 | 567 | 572 | 578 | | | |
| 43 | 583 | 588 | 593 | 598 | 603 | 609 | 614 | 619 | 624 | 629 | | | |
| 44 | 634 | 639 | 645 | 650 | 655 | 660 | 665 | 670 | 675 | 681 | | | |
| 45 | 686 | 691 | 696 | 701 | 706 | 711 | 716 | 722 | 727 | 732 | | | |
| 46 | 737 | 742 | 747 | 752 | 758 | 763 | 768 | 773 | 778 | 783 | | | |
| 47 | 788 | 793 | 799 | 804 | 809 | 814 | 819 | 824 | 829 | 834 | | | |
| 48 | 840 | 845 | 850 | 855 | 860 | 865 | 870 | 875 | 881 | 886 | | | |
| 49 | 891 | 896 | 901 | 906 | 911 | 916 | 921 | 927 | 932 | 937 | | | |
| 850 | 942 | 947 | 952 | 957 | 962 | 967 | 973 | 978 | 983 | 988 | | | |
| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | |

| | 6 | 5 |
|---|-----|-----|
| 1 | 0.6 | 0.5 |
| 2 | 1.2 | 1.0 |
| 3 | 1.8 | 1.5 |
| 4 | 2.4 | 2.0 |
| 5 | 3.0 | 2.5 |
| 6 | 3.6 | 3.0 |
| 7 | 4.2 | 3.5 |
| 8 | 4.8 | 4.0 |
| 9 | 5.4 | 4.5 |

| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | | |
|-----|--------|-----|------|------|------|------|------|------|------|------|------------|--|--|--|
| 850 | 92 942 | 947 | 952 | 957 | 962 | 967 | 973 | 978 | 983 | 988 | | | | |
| 51 | 993 | 998 | *003 | *008 | *013 | *018 | *024 | *029 | *034 | *039 | | | | |
| 52 | 93 044 | 049 | 054 | 059 | 064 | 069 | 075 | 080 | 085 | 090 | | | | |
| 53 | 095 | 100 | 105 | 110 | 115 | 120 | 125 | 131 | 136 | 141 | | | | |
| 54 | 146 | 151 | 156 | 161 | 166 | 171 | 176 | 181 | 186 | 192 | | | | |
| 55 | 197 | 202 | 207 | 212 | 217 | 222 | 227 | 232 | 237 | 242 | | | | |
| 56 | 247 | 252 | 258 | 263 | 268 | 273 | 278 | 283 | 288 | 293 | | | | |
| 57 | 298 | 303 | 308 | 313 | 318 | 323 | 328 | 334 | 339 | 344 | | | | |
| 58 | 349 | 354 | 359 | 364 | 369 | 374 | 379 | 384 | 389 | 394 | | | | |
| 59 | 399 | 404 | 409 | 414 | 420 | 425 | 430 | 435 | 440 | 445 | | | | |
| 860 | 450 | 455 | 460 | 465 | 470 | 475 | 480 | 485 | 490 | 495 | | | | |
| 61 | 500 | 505 | 510 | 515 | 520 | 526 | 531 | 536 | 541 | 546 | | | | |
| 62 | 551 | 556 | 561 | 566 | 571 | 576 | 581 | 586 | 591 | 596 | | | | |
| 63 | 601 | 606 | 611 | 616 | 621 | 626 | 631 | 636 | 641 | 646 | | | | |
| 64 | 651 | 656 | 661 | 666 | 671 | 676 | 682 | 687 | 692 | 697 | | | | |
| 65 | 702 | 707 | 712 | 717 | 722 | 727 | 732 | 737 | 742 | 747 | | | | |
| 66 | 752 | 757 | 762 | 767 | 772 | 777 | 782 | 787 | 792 | 797 | | | | |
| 67 | 802 | 807 | 812 | 817 | 822 | 827 | 832 | 837 | 842 | 847 | | | | |
| 68 | 852 | 857 | 862 | 867 | 872 | 877 | 882 | 887 | 892 | 897 | | | | |
| 69 | 902 | 907 | 912 | 917 | 922 | 927 | 932 | 937 | 942 | 947 | | | | |
| 870 | 952 | 957 | 962 | 967 | 972 | 977 | 982 | 987 | 992 | 997 | | | | |
| 71 | 94 002 | 007 | 012 | 017 | 022 | 027 | 032 | 037 | 042 | 047 | | | | |
| 72 | 052 | 057 | 062 | 067 | 072 | 077 | 082 | 086 | 091 | 096 | | | | |
| 73 | 101 | 106 | 111 | 116 | 121 | 126 | 131 | 136 | 141 | 146 | | | | |
| 74 | 151 | 156 | 161 | 166 | 171 | 176 | 181 | 186 | 191 | 196 | | | | |
| 75 | 201 | 206 | 211 | 216 | 221 | 226 | 231 | 236 | 240 | 245 | | | | |
| 76 | 250 | 255 | 260 | 265 | 270 | 275 | 280 | 285 | 290 | 295 | | | | |
| 77 | 300 | 305 | 310 | 315 | 320 | 325 | 330 | 335 | 340 | 345 | | | | |
| 78 | 349 | 354 | 359 | 364 | 369 | 374 | 379 | 384 | 389 | 394 | | | | |
| 79 | 399 | 404 | 409 | 414 | 419 | 424 | 429 | 433 | 438 | 443 | | | | |
| 880 | 448 | 453 | 458 | 463 | 468 | 473 | 478 | 483 | 488 | 493 | | | | |
| 81 | 498 | 503 | 507 | 512 | 517 | 522 | 527 | 532 | 537 | 542 | | | | |
| 82 | 547 | 552 | 557 | 562 | 567 | 571 | 576 | 581 | 586 | 591 | | | | |
| 83 | 596 | 601 | 606 | 611 | 616 | 621 | 626 | 630 | 635 | 640 | | | | |
| 84 | 645 | 650 | 655 | 660 | 665 | 670 | 675 | 680 | 685 | 689 | | | | |
| 85 | 694 | 699 | 704 | 709 | 714 | 719 | 724 | 729 | 734 | 738 | | | | |
| 86 | 743 | 748 | 753 | 758 | 763 | 768 | 773 | 778 | 783 | 787 | | | | |
| 87 | 792 | 797 | 802 | 807 | 812 | 817 | 822 | 827 | 832 | 836 | | | | |
| 88 | 841 | 846 | 851 | 856 | 861 | 866 | 871 | 876 | 880 | 885 | | | | |
| 89 | 890 | 895 | 900 | 905 | 910 | 915 | 919 | 924 | 929 | 934 | | | | |
| 890 | 939 | 944 | 949 | 954 | 959 | 963 | 968 | 973 | 978 | 983 | | | | |
| 91 | 988 | 993 | 998 | *002 | *007 | *012 | *017 | *022 | *027 | *032 | | | | |
| 92 | 95 036 | 041 | 046 | 051 | 056 | 061 | 066 | 071 | 075 | 080 | | | | |
| 93 | 085 | 090 | 095 | 100 | 105 | 109 | 114 | 119 | 124 | 129 | | | | |
| 94 | 134 | 139 | 143 | 148 | 153 | 158 | 163 | 168 | 173 | 177 | | | | |
| 95 | 182 | 187 | 192 | 197 | 202 | 207 | 211 | 216 | 221 | 226 | | | | |
| 96 | 231 | 236 | 240 | 245 | 250 | 255 | 260 | 265 | 270 | 274 | | | | |
| 97 | 279 | 284 | 289 | 294 | 299 | 303 | 308 | 313 | 318 | 323 | | | | |
| 98 | 328 | 332 | 337 | 342 | 347 | 352 | 357 | 361 | 366 | 371 | | | | |
| 99 | 376 | 381 | 386 | 390 | 395 | 400 | 405 | 410 | 415 | 419 | | | | |
| 900 | 424 | 429 | 434 | 439 | 444 | 448 | 453 | 458 | 463 | 468 | | | | |
| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | | |

| | | | | |
|---|-----|-----|-----|---|
| | | 6 | 5 | 4 |
| 1 | 0.6 | 0.5 | 0.4 | |
| 2 | 1.2 | 1.0 | 0.8 | |
| 3 | 1.8 | 1.5 | 1.2 | |
| 4 | 2.4 | 2.0 | 1.6 | |
| 5 | 3.0 | 2.5 | 2.0 | |
| 6 | 3.6 | 3.0 | 2.4 | |
| 7 | 4.2 | 3.5 | 2.8 | |
| 8 | 4.8 | 4.0 | 3.2 | |
| 9 | 5.4 | 4.5 | 3.6 | |

| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | |
|-----|--------|------|------|------|------|------|------|------|------|------|------------|--|--|
| 900 | 95 424 | 429 | 434 | 439 | 444 | 448 | 453 | 458 | 463 | 468 | | | |
| 01 | 472 | 477 | 482 | 487 | 492 | 497 | 501 | 506 | 511 | 516 | | | |
| 02 | 521 | 525 | 530 | 535 | 540 | 545 | 550 | 554 | 559 | 564 | | | |
| 03 | 569 | 574 | 578 | 583 | 588 | 593 | 598 | 602 | 607 | 612 | | | |
| 04 | 617 | 622 | 626 | 631 | 636 | 641 | 646 | 650 | 655 | 660 | | | |
| 05 | 665 | 670 | 674 | 679 | 684 | 689 | 694 | 698 | 703 | 708 | | | |
| 06 | 713 | 718 | 722 | 727 | 732 | 737 | 742 | 746 | 751 | 756 | | | |
| 07 | 761 | 766 | 770 | 775 | 780 | 785 | 789 | 794 | 799 | 804 | | | |
| 08 | 809 | 813 | 818 | 823 | 828 | 832 | 837 | 842 | 847 | 852 | | | |
| 09 | 856 | 861 | 866 | 871 | 875 | 880 | 885 | 890 | 895 | 899 | | | |
| 910 | 904 | 909 | 914 | 918 | 923 | 928 | 933 | 938 | 942 | 947 | | | |
| 11 | 952 | 957 | 961 | 966 | 971 | 976 | 980 | 985 | 990 | 995 | | | |
| 12 | 999 | *004 | *009 | *014 | *019 | *023 | *028 | *033 | *038 | *042 | | | |
| 13 | 96 047 | 052 | 057 | 061 | 066 | 071 | 076 | 080 | 085 | 090 | | | |
| 14 | 095 | 099 | 104 | 109 | 114 | 118 | 123 | 128 | 133 | 137 | | | |
| 15 | 142 | 147 | 152 | 156 | 161 | 166 | 171 | 175 | 180 | 185 | | | |
| 16 | 190 | 194 | 199 | 204 | 209 | 213 | 218 | 223 | 227 | 232 | | | |
| 17 | 237 | 242 | 246 | 251 | 256 | 261 | 265 | 270 | 275 | 280 | | | |
| 18 | 284 | 289 | 294 | 298 | 303 | 308 | 313 | 317 | 322 | 327 | | | |
| 19 | 332 | 336 | 341 | 346 | 350 | 355 | 360 | 365 | 369 | 374 | | | |
| 920 | 379 | 384 | 388 | 393 | 398 | 402 | 407 | 412 | 417 | 421 | | | |
| 21 | 426 | 431 | 435 | 440 | 445 | 450 | 454 | 459 | 464 | 468 | | | |
| 22 | 473 | 478 | 483 | 487 | 492 | 497 | 501 | 506 | 511 | 515 | | | |
| 23 | 520 | 525 | 530 | 534 | 539 | 544 | 548 | 553 | 558 | 562 | | | |
| 24 | 567 | 572 | 577 | 581 | 586 | 591 | 595 | 600 | 605 | 609 | | | |
| 25 | 614 | 619 | 624 | 628 | 633 | 638 | 642 | 647 | 652 | 656 | | | |
| 26 | 661 | 666 | 670 | 675 | 680 | 685 | 689 | 694 | 699 | 703 | | | |
| 27 | 708 | 713 | 717 | 722 | 727 | 731 | 736 | 741 | 745 | 750 | | | |
| 28 | 755 | 759 | 764 | 769 | 774 | 778 | 783 | 788 | 792 | 797 | | | |
| 29 | 802 | 806 | 811 | 816 | 820 | 825 | 830 | 834 | 839 | 844 | | | |
| 930 | 848 | 853 | 858 | 862 | 867 | 872 | 876 | 881 | 886 | 890 | | | |
| 31 | 895 | 900 | 904 | 909 | 914 | 918 | 923 | 928 | 932 | 937 | | | |
| 32 | 942 | 946 | 951 | 956 | 960 | 965 | 970 | 974 | 979 | 984 | | | |
| 33 | 988 | 993 | 997 | *002 | *007 | *011 | *016 | *021 | *025 | *030 | | | |
| 34 | 97 035 | 039 | 044 | 049 | 053 | 058 | 063 | 067 | 072 | 077 | | | |
| 35 | 081 | 086 | 090 | 095 | 100 | 104 | 109 | 114 | 118 | 123 | | | |
| 36 | 128 | 132 | 137 | 142 | 146 | 151 | 155 | 160 | 165 | 169 | | | |
| 37 | 174 | 179 | 183 | 188 | 192 | 197 | 202 | 206 | 211 | 216 | | | |
| 38 | 220 | 225 | 230 | 234 | 239 | 243 | 248 | 253 | 257 | 262 | | | |
| 39 | 267 | 271 | 276 | 280 | 285 | 290 | 294 | 299 | 304 | 308 | | | |
| 940 | 313 | 317 | 322 | 327 | 331 | 336 | 340 | 345 | 350 | 354 | | | |
| 41 | 359 | 364 | 368 | 373 | 377 | 382 | 387 | 391 | 396 | 400 | | | |
| 42 | 405 | 410 | 414 | 419 | 424 | 428 | 433 | 437 | 442 | 447 | | | |
| 43 | 451 | 456 | 460 | 465 | 470 | 474 | 479 | 483 | 488 | 493 | | | |
| 44 | 497 | 502 | 506 | 511 | 516 | 520 | 525 | 529 | 534 | 539 | | | |
| 45 | 543 | 548 | 552 | 557 | 562 | 566 | 571 | 575 | 580 | 585 | | | |
| 46 | 589 | 594 | 598 | 603 | 607 | 612 | 617 | 621 | 626 | 630 | | | |
| 47 | 635 | 640 | 644 | 649 | 653 | 658 | 663 | 667 | 672 | 676 | | | |
| 48 | 681 | 685 | 690 | 695 | 699 | 704 | 708 | 713 | 717 | 722 | | | |
| 49 | 727 | 731 | 736 | 740 | 745 | 749 | 754 | 759 | 763 | 768 | | | |
| 950 | 772 | 777 | 782 | 786 | 791 | 795 | 800 | 804 | 809 | 813 | | | |
| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. | | |

| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. |
|-------------|--------|-----|-----|------|------|------|------|------|------|------|------------|
| 950 | 97 772 | 777 | 782 | 786 | 791 | 795 | 800 | 804 | 809 | 813 | |
| 51 | 818 | 823 | 827 | 832 | 836 | 841 | 845 | 850 | 855 | 859 | |
| 52 | 804 | 868 | 873 | 877 | 882 | 886 | 891 | 896 | 900 | 905 | |
| 53 | 909 | 914 | 918 | 923 | 928 | 932 | 937 | 941 | 946 | 950 | |
| 54 | 955 | 959 | 964 | 968 | 973 | 978 | 982 | 987 | 991 | 996 | |
| 55 | 98 000 | 005 | 009 | 014 | 019 | 023 | 028 | 032 | 037 | 041 | |
| 56 | 046 | 050 | 055 | 059 | 064 | 068 | 073 | 078 | 082 | 087 | |
| 57 | 091 | 096 | 100 | 105 | 109 | 114 | 118 | 123 | 127 | 132 | |
| 58 | 137 | 141 | 146 | 150 | 155 | 159 | 164 | 168 | 173 | 177 | |
| 59 | 182 | 186 | 191 | 195 | 200 | 204 | 209 | 214 | 218 | 223 | |
| 960 | 227 | 232 | 236 | 241 | 245 | 250 | 254 | 259 | 263 | 268 | |
| 61 | 272 | 277 | 281 | 286 | 290 | 295 | 299 | 304 | 308 | 313 | |
| 62 | 318 | 322 | 327 | 331 | 336 | 340 | 345 | 349 | 354 | 358 | |
| 63 | 363 | 367 | 372 | 376 | 381 | 385 | 390 | 394 | 399 | 403 | |
| 64 | 408 | 412 | 417 | 421 | 426 | 430 | 435 | 439 | 444 | 448 | |
| 65 | 453 | 457 | 462 | 466 | 471 | 475 | 480 | 484 | 489 | 493 | |
| 66 | 498 | 502 | 507 | 511 | 516 | 520 | 525 | 529 | 534 | 538 | |
| 67 | 543 | 547 | 552 | 556 | 561 | 565 | 570 | 574 | 579 | 583 | |
| 68 | 588 | 592 | 597 | 601 | 605 | 610 | 614 | 619 | 623 | 628 | |
| 69 | 632 | 637 | 641 | 646 | 650 | 655 | 659 | 664 | 668 | 673 | |
| 970 | 677 | 682 | 686 | 691 | 695 | 700 | 704 | 709 | 713 | 717 | |
| 71 | 722 | 726 | 731 | 735 | 740 | 744 | 749 | 753 | 758 | 762 | |
| 72 | 767 | 771 | 776 | 780 | 784 | 789 | 793 | 798 | 802 | 807 | |
| 73 | 811 | 816 | 820 | 825 | 829 | 834 | 838 | 843 | 847 | 851 | |
| 74 | 856 | 860 | 865 | 869 | 874 | 878 | 883 | 887 | 892 | 896 | |
| 75 | 900 | 905 | 909 | 914 | 918 | 923 | 927 | 932 | 936 | 941 | |
| 76 | 945 | 949 | 954 | 958 | 963 | 967 | 972 | 976 | 981 | 985 | |
| 77 | 989 | 994 | 998 | *003 | *007 | *012 | *016 | *021 | *025 | *029 | |
| 78 | 99 034 | 038 | 043 | 047 | 052 | 056 | 061 | 065 | 069 | 074 | |
| 79 | 078 | 083 | 087 | 092 | 096 | 100 | 105 | 109 | 114 | 118 | |
| 980 | 123 | 127 | 131 | 136 | 140 | 145 | 149 | 154 | 158 | 162 | |
| 81 | 167 | 171 | 176 | 180 | 185 | 189 | 193 | 198 | 202 | 207 | |
| 82 | 211 | 216 | 220 | 224 | 229 | 233 | 238 | 242 | 247 | 251 | |
| 83 | 255 | 260 | 264 | 269 | 273 | 277 | 282 | 286 | 291 | 295 | |
| 84 | 300 | 304 | 308 | 313 | 317 | 322 | 326 | 330 | 335 | 339 | |
| 85 | 344 | 348 | 352 | 357 | 361 | 366 | 370 | 374 | 379 | 383 | |
| 86 | 388 | 392 | 396 | 401 | 405 | 410 | 414 | 419 | 423 | 427 | |
| 87 | 432 | 436 | 441 | 445 | 449 | 454 | 458 | 463 | 467 | 471 | |
| 88 | 476 | 480 | 484 | 489 | 493 | 498 | 502 | 506 | 511 | 515 | |
| 89 | 520 | 524 | 528 | 533 | 537 | 542 | 546 | 550 | 555 | 559 | |
| 990 | 564 | 568 | 572 | 577 | 581 | 585 | 590 | 594 | 599 | 603 | |
| 91 | 607 | 612 | 616 | 621 | 625 | 629 | 634 | 638 | 642 | 647 | |
| 92 | 651 | 656 | 660 | 664 | 669 | 673 | 677 | 682 | 686 | 691 | |
| 93 | 695 | 699 | 704 | 708 | 712 | 717 | 721 | 726 | 730 | 734 | |
| 94 | 739 | 743 | 747 | 752 | 756 | 760 | 765 | 769 | 774 | 778 | |
| 95 | 782 | 787 | 791 | 795 | 800 | 804 | 808 | 813 | 817 | 822 | |
| 96 | 826 | 830 | 835 | 839 | 843 | 848 | 852 | 856 | 861 | 865 | |
| 97 | 870 | 874 | 878 | 883 | 887 | 891 | 896 | 900 | 904 | 909 | |
| 98 | 913 | 917 | 922 | 926 | 930 | 935 | 939 | 944 | 948 | 952 | |
| 99 | 957 | 961 | 965 | 970 | 974 | 978 | 983 | 987 | 991 | 996 | |
| 1000 | 00 000 | 004 | 009 | 013 | 17 | 022 | 026 | 030 | 035 | 039 | |
| N. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Prop. Pts. |

| | 5 | 4 |
|---|-----|-----|
| 1 | 0.5 | 0.4 |
| 2 | 1.0 | 0.8 |
| 3 | 1.5 | 1.2 |
| 4 | 2.0 | 1.6 |
| 5 | 2.5 | 2.0 |
| 6 | 3.0 | 2.4 |
| 7 | 3.5 | 2.8 |
| 8 | 4.0 | 3.2 |
| 9 | 4.5 | 3.6 |

TABLE Ia. LOGARITHMS OF IMPORTANT CONSTANTS

| N = NUMBER | VALUE OF N | Log ₁₀ N |
|--------------------------------------|---------------------------|---------------------|
| π | 3.14159265 | 0.49714987 |
| $1 \div \pi$ | 0.31830989 | 9.50285013 |
| π^2 | 9.86960440 | 0.99429975 |
| $\sqrt{\pi}$ | 1.77245385 | 0.24857494 |
| e = Napierian Base | 2.71828183 | 0.43429448 |
| $M = \log_{10} e$ | 0.43429448 | 9.63778431 |
| $1 \div M = \log_e 10$ | 2.30258509 | 0.36221569 |
| $180 \div \pi$ = degrees in 1 radian | 57.2957795 | 1.75812262 |
| $\pi \div 180$ = radians in 1° | 0.01745329 | 8.24187738 |
| $\pi \div 10800$ = radians in 1' | 0.0002908882 | 6.4637261 |
| $\pi \div 648000$ = radians in 1'' | 0.000004848136811095 | 4.68557487 |
| sin 1'' | 0.000004848136811076 | 4.68557487 |
| tan 1'' | 0.000004848136811152 | 4.68557487 |
| centimeters in 1 ft. | 30.480 | 1.4840158 |
| feet in 1 cm. | 0.032808 | 8.5159842 |
| inches in 1 m. | 39.37 | 1.5951654 |
| pounds in 1 kg. | 2.20462 | 0.3433340 |
| kilograms in 1 lb. | 0.453593 | 9.6566660 |
| g | 32.16 ft./sec./sec. | 1.5073 |
| | = 981 cm./sec./sec. | 2.9916690 |
| weight of 1 cu. ft. of water | 62.425 lb. (max. density) | 1.7953+ |
| weight of 1 cu. ft. of air | 0.0807 lb. (at 32° F.) | 8.907 |
| cu. m. in 1 (U. S.) gallon | 231 | 2.3636120 |
| ft. lb. per sec. in 1 H. P. | 550. | 2.7403627 |
| kg. m. per sec. in 1 H. P. | 76.0404 | 1.8810445 |
| watts in 1 H. P. | 745.957 | 2.8727135 |

COMMON LOGARITHMS OF THE FIRST HUNDRED PRIME NUMBERS

| N | Logarithm | N | Log | N | Log | N | Log | N | Log |
|----|------------|-----|---------|-----|---------|-----|---------|-----|---------|
| 1 | 0000000000 | 71 | 8512583 | 173 | 2380461 | 281 | 4487063 | 409 | 6117233 |
| 2 | 3010299957 | 73 | 8633229 | 179 | 2528530 | 283 | 4517864 | 419 | 6222140 |
| 3 | 4771212547 | 79 | 8976271 | 181 | 2576786 | 293 | 4668676 | 421 | 6242821 |
| 5 | 6989700043 | 83 | 9190781 | 191 | 2810334 | 307 | 4871384 | 431 | 6344773 |
| 7 | 8450980400 | 89 | 9493900 | 193 | 2855573 | 311 | 4927604 | 433 | 6364879 |
| 11 | 0413926852 | 97 | 9867717 | 197 | 2944662 | 313 | 4955443 | 439 | 6424645 |
| 13 | 1139433523 | 101 | 0043214 | 199 | 2988531 | 317 | 5010593 | 443 | 6464637 |
| 17 | 2304489214 | 103 | 0128372 | 211 | 3242825 | 331 | 5198280 | 449 | 6522463 |
| 19 | 2787536010 | 107 | 0293838 | 223 | 3483049 | 337 | 5276299 | 457 | 6599162 |
| 23 | 3617278360 | 109 | 0374265 | 227 | 3560259 | 347 | 5403295 | 461 | 6637009 |
| 29 | 4623079079 | 113 | 0530784 | 229 | 3598355 | 349 | 5428254 | 463 | 6655810 |
| 31 | 4913616938 | 127 | 1038037 | 233 | 3673559 | 353 | 5477747 | 467 | 6693169 |
| 37 | 5682017241 | 131 | 1172713 | 239 | 3783979 | 359 | 5550944 | 479 | 6803355 |
| 41 | 6127838567 | 137 | 1367206 | 241 | 3820170 | 367 | 5646661 | 487 | 6875290 |
| 43 | 6334684556 | 139 | 1430148 | 251 | 3996737 | 373 | 5717088 | 491 | 6910815 |
| 47 | 6720978579 | 149 | 1731863 | 257 | 4099331 | 379 | 5786392 | 499 | 6981005 |
| 53 | 7242758696 | 151 | 1789769 | 263 | 4199557 | 383 | 5831988 | 503 | 7015680 |
| 59 | 7708520116 | 157 | 1958997 | 269 | 4297523 | 389 | 5899496 | 509 | 7067178 |
| 61 | 7853298350 | 163 | 2121876 | 271 | 4329693 | 397 | 5987905 | 521 | 7168377 |
| 67 | 8260748027 | 167 | 2227165 | 277 | 4424798 | 401 | 6031444 | 523 | 7185017 |

TABLE II

ACTUAL VALUES

OF THE

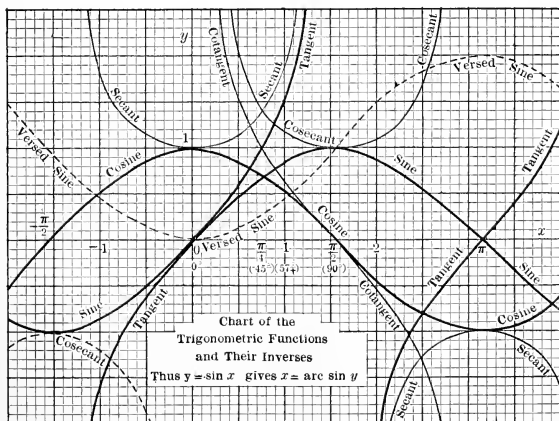
TRIGONOMETRIC FUNCTIONS

FROM

0° TO 90° AT INTERVALS OF ONE MINUTE

TO

FIVE DECIMAL PLACES



| ' | Sin | Tan | Ctn | Cos | |
|----|--------|--------|--------|--------|----|
| 0 | .00000 | .00000 | — | 1.0000 | 60 |
| 1 | .029 | .029 | 3437.7 | .000 | 59 |
| 2 | .058 | .058 | 1718.9 | .000 | 58 |
| 3 | .087 | .087 | 1145.9 | .000 | 57 |
| 4 | .116 | .116 | 859.44 | .000 | 56 |
| 5 | .00145 | .00145 | 687.55 | 1.0000 | 55 |
| 6 | .175 | .175 | 572.96 | .000 | 54 |
| 7 | .204 | .204 | 491.11 | .000 | 53 |
| 8 | .233 | .233 | 429.72 | .000 | 52 |
| 9 | .262 | .262 | 381.97 | .000 | 51 |
| 10 | .00291 | .00291 | 343.77 | 1.0000 | 50 |
| 11 | .320 | .320 | 312.52 | .99999 | 49 |
| 12 | .349 | .349 | 286.48 | .999 | 48 |
| 13 | .378 | .378 | 264.44 | .999 | 47 |
| 14 | .407 | .407 | 245.55 | .999 | 46 |
| 15 | .00436 | .00436 | 229.18 | .99999 | 45 |
| 16 | .465 | .465 | 214.86 | .999 | 44 |
| 17 | .495 | .495 | 202.22 | .999 | 43 |
| 18 | .524 | .524 | 190.98 | .999 | 42 |
| 19 | .553 | .553 | 180.93 | .998 | 41 |
| 20 | .00582 | .00582 | 171.89 | .99998 | 40 |
| 21 | .611 | .611 | 163.70 | .998 | 39 |
| 22 | .640 | .640 | 156.26 | .998 | 38 |
| 23 | .669 | .669 | 149.47 | .998 | 37 |
| 24 | .698 | .698 | 143.24 | .998 | 36 |
| 25 | .00727 | .00727 | 137.51 | .99997 | 35 |
| 26 | .756 | .756 | 132.22 | .997 | 34 |
| 27 | .785 | .785 | 127.32 | .997 | 33 |
| 28 | .814 | .815 | 122.77 | .997 | 32 |
| 29 | .844 | .844 | 118.54 | .996 | 31 |
| 30 | .00873 | .00873 | 114.59 | .99996 | 30 |
| 31 | .902 | .902 | 110.89 | .996 | 29 |
| 32 | .931 | .931 | 107.43 | .996 | 28 |
| 33 | .960 | .960 | 104.17 | .995 | 27 |
| 34 | .00989 | .00989 | 101.11 | .995 | 26 |
| 35 | .01018 | .01018 | 98.218 | .99995 | 25 |
| 36 | .047 | .047 | 95.489 | .995 | 24 |
| 37 | .076 | .076 | 92.908 | .994 | 23 |
| 38 | .105 | .105 | 90.463 | .994 | 22 |
| 39 | .134 | .135 | 88.144 | .994 | 21 |
| 40 | .01164 | .01164 | 85.940 | .99993 | 20 |
| 41 | .193 | .193 | 83.844 | .993 | 19 |
| 42 | .222 | .222 | 81.847 | .993 | 18 |
| 43 | .251 | .251 | 79.943 | .992 | 17 |
| 44 | .280 | .280 | 78.126 | .992 | 16 |
| 45 | .01309 | .01309 | 76.390 | .99991 | 15 |
| 46 | .338 | .338 | 74.729 | .991 | 14 |
| 47 | .367 | .367 | 73.139 | .991 | 13 |
| 48 | .396 | .396 | 71.615 | .990 | 12 |
| 49 | .425 | .425 | 70.153 | .990 | 11 |
| 50 | .01454 | .01455 | 68.750 | .99989 | 10 |
| 51 | .483 | .484 | 67.402 | .989 | 9 |
| 52 | .513 | .513 | 66.105 | .989 | 8 |
| 53 | .542 | .542 | 64.858 | .988 | 7 |
| 54 | .571 | .571 | 63.657 | .988 | 6 |
| 55 | .01600 | .01600 | 62.499 | .99987 | 5 |
| 56 | .629 | .629 | 61.383 | .987 | 4 |
| 57 | .658 | .658 | 60.306 | .986 | 3 |
| 58 | .687 | .687 | 59.266 | .986 | 2 |
| 59 | .716 | .716 | 58.261 | .985 | 1 |
| 60 | .01745 | .01746 | 57.290 | .99985 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | |
|----|--------|--------|--------|--------|----|
| 0 | .01745 | .01746 | 57.290 | .99985 | 60 |
| 1 | .774 | .775 | 56.351 | .984 | 59 |
| 2 | .803 | .804 | 55.442 | .984 | 58 |
| 3 | .832 | .833 | 54.561 | .983 | 57 |
| 4 | .862 | .862 | 53.709 | .983 | 56 |
| 5 | .01891 | .01891 | 52.882 | .99982 | 55 |
| 6 | .920 | .920 | 52.081 | .982 | 54 |
| 7 | .949 | .949 | 51.303 | .981 | 53 |
| 8 | .01978 | .01978 | 50.549 | .980 | 52 |
| 9 | .02007 | .02007 | 49.816 | .980 | 51 |
| 10 | .02036 | .02036 | 49.104 | .99979 | 50 |
| 11 | .065 | .066 | 48.412 | .979 | 49 |
| 12 | .094 | .095 | 47.740 | .978 | 48 |
| 13 | .123 | .124 | 47.085 | .977 | 47 |
| 14 | .152 | .153 | 46.449 | .977 | 46 |
| 15 | .02181 | .02182 | 45.829 | .99976 | 45 |
| 16 | .211 | .211 | 45.226 | .976 | 44 |
| 17 | .240 | .240 | 44.639 | .975 | 43 |
| 18 | .269 | .269 | 44.066 | .974 | 42 |
| 19 | .298 | .298 | 43.508 | .974 | 41 |
| 20 | .02327 | .02328 | 42.964 | .99973 | 40 |
| 21 | .356 | .357 | 42.433 | .972 | 39 |
| 22 | .385 | .386 | 41.916 | .972 | 38 |
| 23 | .414 | .415 | 41.411 | .971 | 37 |
| 24 | .443 | .444 | 40.917 | .970 | 36 |
| 25 | .02472 | .02473 | 40.436 | .99969 | 35 |
| 26 | .501 | .502 | 39.965 | .969 | 34 |
| 27 | .530 | .531 | 39.506 | .968 | 33 |
| 28 | .560 | .560 | 39.057 | .967 | 32 |
| 29 | .589 | .589 | 38.618 | .966 | 31 |
| 30 | .02618 | .02619 | 38.188 | .99966 | 30 |
| 31 | .647 | .648 | 37.769 | .965 | 29 |
| 32 | .676 | .677 | 37.358 | .964 | 28 |
| 33 | .705 | .706 | 36.956 | .963 | 27 |
| 34 | .734 | .735 | 36.563 | .963 | 26 |
| 35 | .02763 | .02764 | 36.178 | .99962 | 25 |
| 36 | .792 | .793 | 35.801 | .961 | 24 |
| 37 | .821 | .822 | 35.431 | .960 | 23 |
| 38 | .850 | .851 | 35.070 | .959 | 22 |
| 39 | .879 | .881 | 34.715 | .959 | 21 |
| 40 | .02908 | .02910 | 34.368 | .99958 | 20 |
| 41 | .938 | .939 | 34.027 | .957 | 19 |
| 42 | .967 | .968 | 33.694 | .956 | 18 |
| 43 | .02996 | .02997 | 33.366 | .955 | 17 |
| 44 | .03025 | .03026 | 33.045 | .954 | 16 |
| 45 | .03054 | .03055 | 32.730 | .99953 | 15 |
| 46 | .083 | .084 | 32.421 | .952 | 14 |
| 47 | .112 | .114 | 32.118 | .952 | 13 |
| 48 | .141 | .143 | 31.821 | .951 | 12 |
| 49 | .170 | .172 | 31.528 | .950 | 11 |
| 50 | .03199 | .03201 | 31.242 | .99949 | 10 |
| 51 | .228 | .230 | 30.960 | .948 | 9 |
| 52 | .257 | .259 | 30.683 | .947 | 8 |
| 53 | .286 | .288 | 30.412 | .946 | 7 |
| 54 | .316 | .317 | 30.145 | .945 | 6 |
| 55 | .03345 | .03346 | 29.882 | .99944 | 5 |
| 56 | .374 | .376 | 29.624 | .943 | 4 |
| 57 | .403 | .405 | 29.371 | .942 | 3 |
| 58 | .432 | .434 | 29.122 | .941 | 2 |
| 59 | .461 | .463 | 28.877 | .940 | 1 |
| 60 | .03490 | .03492 | 28.636 | .99939 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | ' |
|----|--------|--------|--------|--------|----|
| 0 | .03490 | .03492 | 28.636 | .99939 | 60 |
| 1 | 519 | 521 | .399 | 938 | 59 |
| 2 | 548 | 550 | 28.166 | 937 | 58 |
| 3 | 577 | 579 | 27.937 | 936 | 57 |
| 4 | 606 | 609 | .712 | 935 | 56 |
| 5 | .03635 | .03638 | 27.490 | .99934 | 55 |
| 6 | 664 | 667 | .271 | 933 | 54 |
| 7 | 693 | 696 | 27.037 | 932 | 53 |
| 8 | 723 | 725 | 26.845 | 931 | 52 |
| 9 | 752 | 754 | .637 | 930 | 51 |
| 10 | .03781 | .03783 | 26.432 | .99929 | 50 |
| 11 | 810 | 812 | .230 | 927 | 49 |
| 12 | 839 | 842 | 26.031 | 926 | 48 |
| 13 | 868 | 871 | 25.835 | 925 | 47 |
| 14 | 897 | 900 | .642 | 924 | 46 |
| 15 | .03926 | .03929 | 25.432 | .99923 | 45 |
| 16 | 955 | 958 | .264 | 922 | 44 |
| 17 | .03984 | .03987 | 25.080 | 921 | 43 |
| 18 | .04013 | .04016 | 24.898 | 919 | 42 |
| 19 | 042 | 046 | .719 | 918 | 41 |
| 20 | .04071 | .04075 | 24.542 | .99917 | 40 |
| 21 | 100 | 104 | .368 | 916 | 39 |
| 22 | 129 | 133 | .196 | 915 | 38 |
| 23 | 159 | 162 | 24.026 | 913 | 37 |
| 24 | 188 | 191 | 23.859 | 912 | 36 |
| 25 | .04217 | .04220 | 23.695 | .99911 | 35 |
| 26 | 246 | 250 | .532 | 910 | 34 |
| 27 | 275 | 279 | .372 | 909 | 33 |
| 28 | 304 | 308 | .214 | 907 | 32 |
| 29 | 333 | 337 | 23.058 | 906 | 31 |
| 30 | .04362 | .04366 | 22.904 | .99905 | 30 |
| 31 | 391 | 395 | .752 | 904 | 29 |
| 32 | 420 | 424 | .602 | 902 | 28 |
| 33 | 449 | 454 | .454 | 901 | 27 |
| 34 | 478 | 483 | .308 | 900 | 26 |
| 35 | .04507 | .04512 | 22.164 | .99898 | 25 |
| 36 | 536 | 541 | 22.022 | 897 | 24 |
| 37 | 565 | 570 | 21.881 | 896 | 23 |
| 38 | 594 | 599 | .743 | 894 | 22 |
| 39 | 623 | 628 | .606 | 893 | 21 |
| 40 | .04653 | .04658 | 21.470 | .99892 | 20 |
| 41 | 682 | 687 | .337 | 890 | 19 |
| 42 | 711 | 716 | .205 | 889 | 18 |
| 43 | 740 | 745 | 21.075 | 888 | 17 |
| 44 | 769 | 774 | 20.946 | 886 | 16 |
| 45 | .04798 | .04803 | 20.819 | .99885 | 15 |
| 46 | 827 | 833 | .693 | 883 | 14 |
| 47 | 856 | 862 | .569 | 882 | 13 |
| 48 | 885 | 891 | .446 | 881 | 12 |
| 49 | 914 | 920 | .325 | 879 | 11 |
| 50 | .04943 | .04949 | 20.206 | .99878 | 10 |
| 51 | .04972 | .04978 | 20.087 | 876 | 9 |
| 52 | .05001 | .05007 | 19.970 | 875 | 8 |
| 53 | 030 | 037 | .855 | 873 | 7 |
| 54 | 059 | 066 | .740 | 872 | 6 |
| 55 | .05088 | .05095 | 19.627 | .99870 | 5 |
| 56 | 117 | 124 | .516 | 869 | 4 |
| 57 | 146 | 153 | .405 | 867 | 3 |
| 58 | 175 | 182 | .296 | 866 | 2 |
| 59 | 205 | 212 | .188 | 864 | 1 |
| 60 | .05234 | .05241 | 19.081 | .99863 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | ' |
|----|--------|--------|--------|--------|----|
| 0 | .05234 | .05241 | 19.081 | .99863 | 60 |
| 1 | 263 | 270 | 18.976 | 861 | 59 |
| 2 | 292 | 299 | .871 | 860 | 58 |
| 3 | 321 | 328 | .768 | 858 | 57 |
| 4 | 350 | 357 | .666 | 857 | 56 |
| 5 | .05379 | .05387 | 18.564 | .99855 | 55 |
| 6 | 408 | 416 | .464 | 854 | 54 |
| 7 | 437 | 445 | .366 | 852 | 53 |
| 8 | 466 | 474 | .268 | 851 | 52 |
| 9 | 495 | 503 | .171 | 849 | 51 |
| 10 | .05524 | .05533 | 18.075 | .99847 | 50 |
| 11 | 553 | 562 | 17.980 | 846 | 49 |
| 12 | 582 | 591 | .886 | 844 | 48 |
| 13 | 611 | 620 | .793 | 842 | 47 |
| 14 | 640 | 649 | .702 | 841 | 46 |
| 15 | .05669 | .05678 | 17.611 | .99839 | 45 |
| 16 | 698 | 708 | .521 | 838 | 44 |
| 17 | 727 | 737 | .431 | 836 | 43 |
| 18 | 756 | 766 | .343 | 834 | 42 |
| 19 | 785 | 795 | .256 | 833 | 41 |
| 20 | .05814 | .05824 | 17.169 | .99831 | 40 |
| 21 | 844 | 854 | 17.084 | 829 | 39 |
| 22 | 873 | 883 | 16.999 | 827 | 38 |
| 23 | 902 | 912 | .915 | 826 | 37 |
| 24 | 931 | 941 | .832 | 824 | 36 |
| 25 | .05960 | .05970 | 16.750 | .99822 | 35 |
| 26 | .05989 | .05999 | .668 | 821 | 34 |
| 27 | .06018 | .06029 | .587 | 819 | 33 |
| 28 | 047 | 058 | .507 | 817 | 32 |
| 29 | 076 | 087 | .428 | 815 | 31 |
| 30 | .06105 | .06116 | 16.350 | .99813 | 30 |
| 31 | 134 | 145 | .272 | 812 | 29 |
| 32 | 163 | 175 | .195 | 810 | 28 |
| 33 | 192 | 204 | .119 | 808 | 27 |
| 34 | 221 | 233 | 16.043 | 806 | 26 |
| 35 | .06250 | .06262 | 15.969 | .99804 | 25 |
| 36 | 279 | 291 | .895 | 803 | 24 |
| 37 | 308 | 321 | .821 | 801 | 23 |
| 38 | 337 | 350 | .748 | 799 | 22 |
| 39 | 366 | 379 | .676 | 797 | 21 |
| 40 | .06395 | .06408 | 15.605 | .99795 | 20 |
| 41 | 424 | 438 | .534 | 793 | 19 |
| 42 | 453 | 467 | .464 | 792 | 18 |
| 43 | 482 | 496 | .394 | 790 | 17 |
| 44 | 511 | 525 | .325 | 788 | 16 |
| 45 | .06540 | .06554 | 15.257 | .99786 | 15 |
| 46 | 569 | 584 | .189 | 784 | 14 |
| 47 | 598 | 613 | .122 | 782 | 13 |
| 48 | 627 | 642 | 15.056 | 780 | 12 |
| 49 | 656 | 671 | 14.990 | 778 | 11 |
| 50 | .06685 | .06700 | 14.924 | .99776 | 10 |
| 51 | 714 | 730 | .860 | 774 | 9 |
| 52 | 743 | 759 | .795 | 772 | 8 |
| 53 | 773 | 788 | .732 | 770 | 7 |
| 54 | 802 | 817 | .669 | 768 | 6 |
| 55 | .06831 | .06847 | 14.606 | .99766 | 5 |
| 56 | 860 | 876 | .544 | 764 | 4 |
| 57 | 889 | 905 | .482 | 762 | 3 |
| 58 | 918 | 934 | .421 | 760 | 2 |
| 59 | 947 | 963 | .361 | 758 | 1 |
| 60 | .06976 | .06993 | 14.301 | .99756 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | ' |
|----|--------|--------|--------|--------|----|
| 0 | .06976 | .06993 | 14.301 | .99756 | 60 |
| 1 | .07005 | .07022 | .241 | .754 | 59 |
| 2 | .034 | .051 | .182 | .752 | 58 |
| 3 | .063 | .080 | .124 | .750 | 57 |
| 4 | .092 | .110 | .065 | .748 | 56 |
| 5 | .07121 | .07139 | 14.008 | .99746 | 55 |
| 6 | .150 | .168 | 13.951 | .744 | 54 |
| 7 | .179 | .197 | .894 | .742 | 53 |
| 8 | .208 | .227 | .838 | .740 | 52 |
| 9 | .237 | .256 | .782 | .738 | 51 |
| 10 | .07266 | .07285 | 13.727 | .99736 | 50 |
| 11 | .295 | .314 | .672 | .734 | 49 |
| 12 | .324 | .344 | .617 | .731 | 48 |
| 13 | .353 | .373 | .563 | .729 | 47 |
| 14 | .382 | .402 | .510 | .727 | 46 |
| 15 | .07411 | .07431 | 13.457 | .99725 | 45 |
| 16 | .440 | .461 | .404 | .723 | 44 |
| 17 | .469 | .490 | .352 | .721 | 43 |
| 18 | .498 | .519 | .300 | .719 | 42 |
| 19 | .527 | .548 | .248 | .716 | 41 |
| 20 | .07556 | .07578 | 13.197 | .99714 | 40 |
| 21 | .585 | .607 | .146 | .712 | 39 |
| 22 | .614 | .636 | .096 | .710 | 38 |
| 23 | .643 | .665 | 13.046 | .708 | 37 |
| 24 | .672 | .695 | 12.906 | .705 | 36 |
| 25 | .07701 | .07724 | 12.947 | .99703 | 35 |
| 26 | .730 | .753 | .898 | .701 | 34 |
| 27 | .759 | .782 | .850 | .699 | 33 |
| 28 | .788 | .812 | .801 | .696 | 32 |
| 29 | .817 | .841 | .754 | .694 | 31 |
| 30 | .07846 | .07870 | 12.706 | .99692 | 30 |
| 31 | .875 | .899 | .659 | .689 | 29 |
| 32 | .904 | .929 | .612 | .687 | 28 |
| 33 | .933 | .958 | .566 | .685 | 27 |
| 34 | .962 | .07987 | .520 | .683 | 26 |
| 35 | .07991 | .08017 | 12.474 | .99680 | 25 |
| 36 | .08020 | .046 | .429 | .678 | 24 |
| 37 | .049 | .075 | .384 | .676 | 23 |
| 38 | .078 | .104 | .339 | .673 | 22 |
| 39 | .107 | .134 | .295 | .671 | 21 |
| 40 | .08136 | .08163 | 12.251 | .99668 | 20 |
| 41 | .165 | .192 | .207 | .666 | 19 |
| 42 | .194 | .221 | .163 | .664 | 18 |
| 43 | .223 | .251 | .120 | .661 | 17 |
| 44 | .252 | .280 | .077 | .659 | 16 |
| 45 | .08281 | .08309 | 12.035 | .99657 | 15 |
| 46 | .310 | .339 | 11.992 | .654 | 14 |
| 47 | .339 | .368 | .950 | .652 | 13 |
| 48 | .368 | .397 | .909 | .649 | 12 |
| 49 | .397 | .427 | .867 | .647 | 11 |
| 50 | .08426 | .08456 | 11.826 | .99644 | 10 |
| 51 | .455 | .485 | .785 | .642 | 9 |
| 52 | .484 | .514 | .745 | .639 | 8 |
| 53 | .513 | .544 | .705 | .637 | 7 |
| 54 | .542 | .573 | .664 | .635 | 6 |
| 55 | .08571 | .08602 | 11.625 | .99632 | 5 |
| 56 | .600 | .632 | .585 | .630 | 4 |
| 57 | .629 | .661 | .546 | .627 | 3 |
| 58 | .658 | .690 | .507 | .625 | 2 |
| 59 | .687 | .720 | .468 | .622 | 1 |
| 60 | .08716 | .08749 | 11.430 | .99619 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | ' |
|----|--------|--------|--------|--------|----|
| 0 | .08716 | .08749 | 11.430 | .99619 | 60 |
| 1 | .745 | .778 | .392 | .617 | 59 |
| 2 | .774 | .807 | .354 | .614 | 58 |
| 3 | .803 | .837 | .316 | .612 | 57 |
| 4 | .831 | .866 | .279 | .609 | 56 |
| 5 | .08860 | .08895 | 11.242 | .99607 | 55 |
| 6 | .889 | .925 | .205 | .604 | 54 |
| 7 | .918 | .954 | .168 | .602 | 53 |
| 8 | .947 | .08983 | .132 | .599 | 52 |
| 9 | .08976 | .09013 | .095 | .596 | 51 |
| 10 | .09005 | .09042 | 11.059 | .99594 | 50 |
| 11 | .034 | .071 | 11.024 | .591 | 49 |
| 12 | .063 | .101 | 10.988 | .588 | 48 |
| 13 | .092 | .130 | .953 | .586 | 47 |
| 14 | .121 | .159 | .918 | .583 | 46 |
| 15 | .09150 | .09189 | 10.883 | .99580 | 45 |
| 16 | .179 | .218 | .848 | .578 | 44 |
| 17 | .208 | .247 | .814 | .575 | 43 |
| 18 | .237 | .277 | .780 | .572 | 42 |
| 19 | .266 | .306 | .746 | .570 | 41 |
| 20 | .09295 | .09335 | 10.712 | .99567 | 40 |
| 21 | .324 | .365 | .678 | .564 | 39 |
| 22 | .353 | .394 | .645 | .562 | 38 |
| 23 | .382 | .423 | .612 | .559 | 37 |
| 24 | .411 | .453 | .579 | .556 | 36 |
| 25 | .09440 | .09482 | 10.546 | .99553 | 35 |
| 26 | .469 | .511 | .514 | .551 | 34 |
| 27 | .498 | .541 | .481 | .548 | 33 |
| 28 | .527 | .570 | .449 | .545 | 32 |
| 29 | .556 | .600 | .417 | .542 | 31 |
| 30 | .09585 | .09629 | 10.385 | .99540 | 30 |
| 31 | .614 | .658 | .354 | .537 | 29 |
| 32 | .642 | .688 | .322 | .534 | 28 |
| 33 | .671 | .717 | .291 | .531 | 27 |
| 34 | .700 | .746 | .260 | .528 | 26 |
| 35 | .09729 | .09776 | 10.229 | .99526 | 25 |
| 36 | .758 | .805 | .199 | .523 | 24 |
| 37 | .787 | .834 | .168 | .520 | 23 |
| 38 | .816 | .864 | .138 | .517 | 22 |
| 39 | .845 | .893 | .108 | .514 | 21 |
| 40 | .09874 | .09923 | 10.078 | .99511 | 20 |
| 41 | .903 | .952 | .048 | .508 | 19 |
| 42 | .932 | .09981 | 10.019 | .506 | 18 |
| 43 | .961 | .10011 | 9.9893 | .503 | 17 |
| 44 | .09990 | .040 | .9601 | .500 | 16 |
| 45 | .10019 | .10069 | 9.9310 | .99497 | 15 |
| 46 | .048 | .099 | .9021 | .494 | 14 |
| 47 | .077 | .128 | .8734 | .491 | 13 |
| 48 | .106 | .158 | .8448 | .488 | 12 |
| 49 | .135 | .187 | .8164 | .485 | 11 |
| 50 | .10164 | .10216 | 9.7882 | .99482 | 10 |
| 51 | .192 | .246 | .7601 | .479 | 9 |
| 52 | .221 | .275 | .7322 | .476 | 8 |
| 53 | .250 | .305 | .7044 | .473 | 7 |
| 54 | .279 | .334 | .6768 | .470 | 6 |
| 55 | .10308 | .10363 | 9.6493 | .99467 | 5 |
| 56 | .337 | .393 | .6220 | .464 | 4 |
| 57 | .366 | .422 | .5949 | .461 | 3 |
| 58 | .395 | .452 | .5679 | .458 | 2 |
| 59 | .424 | .481 | .5411 | .455 | 1 |
| 60 | .10453 | .10510 | 9.5144 | .99452 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | ' |
|-----|--------|--------|--------|--------|----|
| 0 | .10453 | .10510 | 9.5144 | .99452 | 60 |
| 1 | 482 | 540 | .4878 | 449 | 59 |
| 2 | 511 | 569 | .4614 | 446 | 58 |
| 3 | 540 | 599 | .4352 | 443 | 57 |
| 4 | 569 | 628 | .4090 | 440 | 56 |
| 5 | .10597 | .10657 | 9.3831 | .99437 | 55 |
| 6 | 626 | 687 | .3572 | 434 | 54 |
| 7 | 655 | 716 | .3315 | 431 | 53 |
| 8 | 684 | 746 | .3060 | 428 | 52 |
| 9 | 713 | 775 | .2806 | 424 | 51 |
| 10 | .10742 | .10805 | 9.2553 | .99421 | 50 |
| 11 | 771 | 834 | .2302 | 418 | 49 |
| 12 | 800 | 863 | .2052 | 415 | 48 |
| 13 | 829 | 893 | .1803 | 412 | 47 |
| 14 | 858 | 922 | .1555 | 409 | 46 |
| 15 | .10887 | .10952 | 9.1309 | .99406 | 45 |
| 16 | 916 | .10981 | .1065 | 402 | 44 |
| 17 | 945 | .11011 | .0821 | 399 | 43 |
| 18 | .10973 | 040 | .0579 | 396 | 42 |
| 19 | .11002 | 070 | .0338 | 393 | 41 |
| 20 | .11031 | .11099 | 9.0098 | .99390 | 40 |
| 21 | 060 | 128 | 8.9860 | 386 | 39 |
| 22 | 089 | 158 | .9623 | 383 | 38 |
| 23 | 118 | 187 | .9387 | 380 | 37 |
| 24 | 147 | 217 | .9152 | 377 | 36 |
| 25 | .11176 | .11246 | 8.8919 | .99374 | 35 |
| 26 | 205 | 276 | .8686 | 370 | 34 |
| 27 | 234 | 305 | .8455 | 367 | 33 |
| 28 | 263 | 335 | .8225 | 364 | 32 |
| 29 | 291 | 364 | .7996 | 360 | 31 |
| 30 | .11320 | .11394 | 8.7769 | .99357 | 30 |
| 31 | 349 | 423 | .7542 | 354 | 29 |
| 32 | 378 | 452 | .7317 | 351 | 28 |
| 33 | 407 | 482 | .7093 | 347 | 27 |
| 34 | 436 | 511 | .6870 | 344 | 26 |
| 35 | .11465 | .11541 | 8.6648 | .99341 | 25 |
| 36 | 494 | 570 | .6427 | 337 | 24 |
| 37 | 523 | 600 | .6208 | 334 | 23 |
| 38 | 552 | 629 | .5989 | 331 | 22 |
| 39 | 580 | 659 | .5772 | 327 | 21 |
| 40 | .11609 | .11688 | 8.5555 | .99324 | 20 |
| 41 | 638 | 718 | .5340 | 320 | 19 |
| 42 | 667 | 747 | .5126 | 317 | 18 |
| 43 | 696 | 777 | .4913 | 314 | 17 |
| 44 | 725 | 806 | .4701 | 310 | 16 |
| 45 | .11754 | .11836 | 8.4490 | .99307 | 15 |
| 46 | 783 | 865 | .4280 | 303 | 14 |
| 47 | 812 | 895 | .4071 | 300 | 13 |
| 48 | 840 | 924 | .3863 | 297 | 12 |
| 49 | 869 | 954 | .3656 | 293 | 11 |
| 50 | .11898 | .11983 | 8.3450 | .99290 | 10 |
| 51 | 927 | .12013 | .3245 | 286 | 9 |
| 52 | 956 | 042 | .3041 | 283 | 8 |
| 53 | .11985 | 072 | .2838 | 279 | 7 |
| 54 | .12014 | 101 | .2636 | 276 | 6 |
| 55 | .12043 | .12131 | 8.2434 | .99272 | 5 |
| 56 | 071 | 160 | .2234 | 269 | 4 |
| 57 | 100 | 190 | .2035 | 265 | 3 |
| 58 | 129 | 219 | .1837 | 262 | 2 |
| 59 | 158 | 249 | .1640 | 258 | 1 |
| 60 | .12187 | .12278 | 8.1443 | .99255 | 0 |
| Cos | Ctn | Tan | Sin | ' | |

| ' | Sin | Tan | Ctn | Cos | ' |
|-----|--------|--------|--------|--------|----|
| 0 | .12187 | .12278 | 8.1443 | .99255 | 60 |
| 1 | 216 | 308 | .1248 | 251 | 59 |
| 2 | 245 | 338 | .1054 | 248 | 58 |
| 3 | 274 | 367 | .0860 | 244 | 57 |
| 4 | 302 | 397 | .0667 | 240 | 56 |
| 5 | .12331 | .12426 | 8.0476 | .99237 | 55 |
| 6 | 360 | 456 | .0285 | 233 | 54 |
| 7 | 389 | 485 | 8.0095 | 230 | 53 |
| 8 | 418 | 515 | 7.9906 | 226 | 52 |
| 9 | 447 | 544 | .9718 | 222 | 51 |
| 10 | .12476 | .12574 | 7.9530 | .99219 | 50 |
| 11 | 504 | 603 | .9344 | 215 | 49 |
| 12 | 533 | 633 | .9158 | 211 | 48 |
| 13 | 562 | 662 | .8973 | 208 | 47 |
| 14 | 591 | 692 | .8789 | 204 | 46 |
| 15 | .12620 | .12722 | 7.8606 | .99200 | 45 |
| 16 | 649 | 751 | .8424 | 197 | 44 |
| 17 | 678 | 781 | .8243 | 193 | 43 |
| 18 | 706 | 810 | .8062 | 189 | 42 |
| 19 | 735 | 840 | .7882 | 186 | 41 |
| 20 | .12764 | .12869 | 7.7704 | .99182 | 40 |
| 21 | 793 | 899 | .7525 | 178 | 39 |
| 22 | 822 | 929 | .7348 | 175 | 38 |
| 23 | 851 | 958 | .7171 | 171 | 37 |
| 24 | 880 | .12988 | .6996 | 167 | 36 |
| 25 | .12908 | .13017 | 7.6821 | .99163 | 35 |
| 26 | 937 | 047 | .6647 | 160 | 34 |
| 27 | 966 | 076 | .6473 | 156 | 33 |
| 28 | .12995 | 106 | .6301 | 152 | 32 |
| 29 | .13024 | 136 | .6129 | 148 | 31 |
| 30 | .13053 | .13165 | 7.5958 | .99144 | 30 |
| 31 | 081 | 195 | .5787 | 141 | 29 |
| 32 | 110 | 224 | .5618 | 137 | 28 |
| 33 | 139 | 254 | .5449 | 133 | 27 |
| 34 | 168 | 284 | .5281 | 129 | 26 |
| 35 | .13197 | .13313 | 7.5113 | .99125 | 25 |
| 36 | 226 | 343 | .4947 | 122 | 24 |
| 37 | 254 | 372 | .4781 | 118 | 23 |
| 38 | 283 | 402 | .4615 | 114 | 22 |
| 39 | 312 | 432 | .4451 | 110 | 21 |
| 40 | .13341 | .13461 | 7.4287 | .99106 | 20 |
| 41 | 370 | 491 | .4124 | 102 | 19 |
| 42 | 399 | 521 | .3962 | 098 | 18 |
| 43 | 427 | 550 | .3800 | 094 | 17 |
| 44 | 456 | 580 | .3639 | 091 | 16 |
| 45 | .13485 | .13609 | 7.3479 | .99087 | 15 |
| 46 | 514 | 639 | .3319 | 083 | 14 |
| 47 | 543 | 669 | .3160 | 079 | 13 |
| 48 | 572 | 698 | .3002 | 075 | 12 |
| 49 | 600 | 728 | .2844 | 071 | 11 |
| 50 | .13629 | .13758 | 7.2687 | .99067 | 10 |
| 51 | 658 | 787 | .2531 | 063 | 9 |
| 52 | 687 | 817 | .2375 | 059 | 8 |
| 53 | 716 | 846 | .2220 | 055 | 7 |
| 54 | 744 | 876 | .2066 | 051 | 6 |
| 55 | .13773 | .13906 | 7.1912 | .99047 | 5 |
| 56 | 802 | 935 | .1759 | 043 | 4 |
| 57 | 831 | 965 | .1607 | 039 | 3 |
| 58 | 860 | .13995 | .1455 | 035 | 2 |
| 59 | 889 | .14024 | .1304 | 031 | 1 |
| 60 | .13917 | .14054 | 7.1154 | .99027 | 0 |
| Cos | Ctn | Tan | Sin | ' | |

| <i>i</i> | Sin | Tan | Ctn | Cos | |
|----------|--------|--------|--------|--------|-----------|
| 0 | .13917 | .14054 | 7.1154 | .99027 | 60 |
| 1 | .946 | .084 | .1004 | .023 | 59 |
| 2 | .13975 | .113 | .0855 | .019 | 58 |
| 3 | .14004 | .143 | .0706 | .015 | 57 |
| 4 | .033 | .173 | .0558 | .011 | 56 |
| 5 | .14061 | .14202 | 7.0410 | .99006 | 55 |
| 6 | .090 | .232 | .0264 | .99002 | 54 |
| 7 | .119 | .262 | 7.0117 | .98998 | 53 |
| 8 | .148 | .291 | 6.9972 | .994 | 52 |
| 9 | .177 | .321 | .9827 | .990 | 51 |
| 10 | .14205 | .14351 | 6.9682 | .98986 | 50 |
| 11 | .234 | .381 | .9538 | .982 | 49 |
| 12 | .263 | .410 | .9395 | .978 | 48 |
| 13 | .292 | .440 | .9252 | .973 | 47 |
| 14 | .320 | .470 | .9110 | .969 | 46 |
| 15 | .14349 | .14499 | 6.8969 | .98965 | 45 |
| 16 | .378 | .529 | .8828 | .961 | 44 |
| 17 | .407 | .559 | .8687 | .957 | 43 |
| 18 | .436 | .588 | .8548 | .953 | 42 |
| 19 | .464 | .618 | .8408 | .948 | 41 |
| 20 | .14493 | .14648 | 6.8269 | .98944 | 40 |
| 21 | .522 | .678 | .8131 | .940 | 39 |
| 22 | .551 | .707 | .7994 | .936 | 38 |
| 23 | .580 | .737 | .7856 | .931 | 37 |
| 24 | .608 | .767 | .7720 | .927 | 36 |
| 25 | .14637 | .14796 | 6.7584 | .98923 | 35 |
| 26 | .666 | .826 | .7448 | .919 | 34 |
| 27 | .695 | .856 | .7313 | .914 | 33 |
| 28 | .723 | .886 | .7179 | .910 | 32 |
| 29 | .752 | .915 | .7045 | .906 | 31 |
| 30 | .14781 | .14945 | 6.6912 | .98902 | 30 |
| 31 | .810 | .14975 | .6779 | .897 | 29 |
| 32 | .838 | .15005 | .6646 | .893 | 28 |
| 33 | .867 | .034 | .6514 | .889 | 27 |
| 34 | .896 | .064 | .6383 | .884 | 26 |
| 35 | .14925 | .15094 | 6.6252 | .98880 | 25 |
| 36 | .954 | .124 | .6122 | .876 | 24 |
| 37 | .14982 | .153 | .5992 | .871 | 23 |
| 38 | .15011 | .183 | .5863 | .867 | 22 |
| 39 | .040 | .213 | .5734 | .863 | 21 |
| 40 | .15069 | .15243 | 6.5606 | .98858 | 20 |
| 41 | .097 | .272 | .5478 | .854 | 19 |
| 42 | .126 | .302 | .5350 | .849 | 18 |
| 43 | .155 | .332 | .5223 | .845 | 17 |
| 44 | .184 | .362 | .5097 | .841 | 16 |
| 45 | .15212 | .15391 | 6.4971 | .98836 | 15 |
| 46 | .241 | .421 | .4846 | .832 | 14 |
| 47 | .270 | .451 | .4721 | .827 | 13 |
| 48 | .299 | .481 | .4596 | .823 | 12 |
| 49 | .327 | .511 | .4472 | .818 | 11 |
| 50 | .15356 | .15540 | 6.4348 | .98814 | 10 |
| 51 | .385 | .570 | .4225 | .809 | 9 |
| 52 | .414 | .600 | .4103 | .805 | 8 |
| 53 | .442 | .630 | .3980 | .800 | 7 |
| 54 | .471 | .660 | .3859 | .796 | 6 |
| 55 | .15500 | .15689 | 6.3737 | .98791 | 5 |
| 56 | .529 | .719 | .3617 | .787 | 4 |
| 57 | .557 | .749 | .3496 | .782 | 3 |
| 58 | .586 | .779 | .3376 | .778 | 2 |
| 59 | .615 | .809 | .3257 | .773 | 1 |
| 60 | .15643 | .15838 | 6.3138 | .98769 | 0 |
| | Cos | Ctn | Tan | Sin | <i>i</i> |

81°

| <i>i</i> | Sin | Tan | Ctn | Cos | |
|----------|--------|--------|---------|--------|-----------|
| 0 | .15643 | .15838 | 6.3138 | .98769 | 60 |
| 1 | .672 | .868 | .3019 | .764 | 59 |
| 2 | .701 | .898 | .2901 | .760 | 58 |
| 3 | .730 | .928 | .2783 | .755 | 57 |
| 4 | .758 | .958 | .2666 | .751 | 56 |
| 5 | .15787 | .15988 | 6.2549 | .98746 | 55 |
| 6 | .816 | .16017 | .2432 | .741 | 54 |
| 7 | .845 | .047 | .2316 | .737 | 53 |
| 8 | .873 | .077 | .2200 | .732 | 52 |
| 9 | .902 | .107 | .2085 | .728 | 51 |
| 10 | .15931 | .16137 | 6.1970 | .98723 | 50 |
| 11 | .959 | .167 | .1856 | .718 | 49 |
| 12 | .15988 | .196 | .1742 | .714 | 48 |
| 13 | .16017 | .226 | .1628 | .709 | 47 |
| 14 | .046 | .256 | .1515 | .704 | 46 |
| 15 | .16074 | .16286 | 6.1402 | .98700 | 45 |
| 16 | .103 | .316 | .1290 | .695 | 44 |
| 17 | .132 | .346 | .1178 | .690 | 43 |
| 18 | .160 | .376 | .1066 | .686 | 42 |
| 19 | .189 | .405 | .0955 | .681 | 41 |
| 20 | .16218 | .16435 | 6.0844 | .98676 | 40 |
| 21 | .246 | .465 | .0734 | .671 | 39 |
| 22 | .275 | .495 | .0624 | .667 | 38 |
| 23 | .304 | .525 | .0514 | .662 | 37 |
| 24 | .333 | .555 | .0405 | .657 | 36 |
| 25 | .16361 | .16585 | 6.0296 | .98652 | 35 |
| 26 | .390 | .615 | .0188 | .648 | 34 |
| 27 | .419 | .645 | .6.0080 | .643 | 33 |
| 28 | .447 | .674 | 5.9972 | .638 | 32 |
| 29 | .476 | .704 | .9865 | .633 | 31 |
| 30 | .16505 | .16734 | 5.9758 | .98629 | 30 |
| 31 | .533 | .764 | .9651 | .624 | 29 |
| 32 | .562 | .794 | .9545 | .619 | 28 |
| 33 | .591 | .824 | .9439 | .614 | 27 |
| 34 | .620 | .854 | .9333 | .609 | 26 |
| 35 | .16648 | .16884 | 5.9228 | .98604 | 25 |
| 36 | .677 | .914 | .9124 | .600 | 24 |
| 37 | .706 | .944 | .9019 | .595 | 23 |
| 38 | .734 | .16974 | .8915 | .590 | 22 |
| 39 | .763 | .17004 | .8811 | .585 | 21 |
| 40 | .16792 | .17033 | 5.8708 | .98580 | 20 |
| 41 | .820 | .063 | .8605 | .575 | 19 |
| 42 | .849 | .093 | .8502 | .570 | 18 |
| 43 | .878 | .123 | .8400 | .565 | 17 |
| 44 | .906 | .153 | .8298 | .561 | 16 |
| 45 | .16935 | .17183 | 5.8197 | .98556 | 15 |
| 46 | .964 | .213 | .8095 | .551 | 14 |
| 47 | .16992 | .243 | .7994 | .546 | 13 |
| 48 | .17021 | .273 | .7894 | .541 | 12 |
| 49 | .050 | .303 | .7794 | .536 | 11 |
| 50 | .17078 | .17333 | 5.7694 | .98531 | 10 |
| 51 | .107 | .363 | .7594 | .526 | 9 |
| 52 | .136 | .393 | .7495 | .521 | 8 |
| 53 | .164 | .423 | .7396 | .516 | 7 |
| 54 | .193 | .453 | .7297 | .511 | 6 |
| 55 | .17222 | .17483 | 5.7199 | .98506 | 5 |
| 56 | .250 | .513 | .7101 | .501 | 4 |
| 57 | .279 | .543 | .7004 | .496 | 3 |
| 58 | .308 | .573 | .6906 | .491 | 2 |
| 59 | .336 | .603 | .6809 | .486 | 1 |
| 60 | .17365 | .17633 | 5.6713 | .98481 | 0 |
| | Cos | Ctn | Tan | Sin | |

80°

| ' | Sin | Tan | Ctn | Cos | ' |
|----|--------|--------|--------|--------|----|
| 0 | .17365 | .17633 | 5.6713 | .98481 | 60 |
| 1 | 393 | 663 | .6617 | 476 | 59 |
| 2 | 422 | 693 | .6521 | 471 | 58 |
| 3 | 451 | 723 | .6425 | 466 | 57 |
| 4 | 479 | 753 | .6329 | 461 | 56 |
| 5 | .17508 | .17783 | 5.6234 | .98455 | 55 |
| 6 | 537 | 813 | .6140 | 450 | 54 |
| 7 | 565 | 843 | .6045 | 445 | 53 |
| 8 | 594 | 873 | .5951 | 440 | 52 |
| 9 | 623 | 903 | .5857 | 435 | 51 |
| 10 | .17651 | .17933 | 5.5764 | .98430 | 50 |
| 11 | 680 | 963 | .5671 | 425 | 49 |
| 12 | 708 | .17993 | .5578 | 420 | 48 |
| 13 | 737 | .18023 | .5485 | 414 | 47 |
| 14 | 766 | 053 | .5393 | 409 | 46 |
| 15 | .17794 | .18083 | 5.5301 | .98404 | 45 |
| 16 | 823 | 113 | .5209 | 399 | 44 |
| 17 | 852 | 143 | .5118 | 394 | 43 |
| 18 | 880 | 173 | .5026 | 389 | 42 |
| 19 | 909 | 203 | .4936 | 383 | 41 |
| 20 | .17937 | .18223 | 5.4845 | .98378 | 40 |
| 21 | 966 | 263 | .4755 | 373 | 39 |
| 22 | .17995 | 293 | .4665 | 368 | 38 |
| 23 | .18023 | 323 | .4575 | 362 | 37 |
| 24 | 052 | 353 | .4486 | 357 | 36 |
| 25 | .18081 | .18384 | 5.4397 | .98352 | 35 |
| 26 | 109 | 414 | .4308 | 347 | 34 |
| 27 | 138 | 444 | .4219 | 341 | 33 |
| 28 | 166 | 474 | .4131 | 336 | 32 |
| 29 | 195 | 504 | .4043 | 331 | 31 |
| 30 | .18224 | .18534 | 5.3955 | .98325 | 30 |
| 31 | 252 | 564 | .3868 | 320 | 29 |
| 32 | 281 | 594 | .3781 | 315 | 28 |
| 33 | 309 | 624 | .3694 | 310 | 27 |
| 34 | 338 | 654 | .3607 | 304 | 26 |
| 35 | .18367 | .18684 | 5.3521 | .98299 | 25 |
| 36 | 395 | 714 | .3435 | 294 | 24 |
| 37 | 424 | 745 | .3349 | 288 | 23 |
| 38 | 452 | 775 | .3263 | 283 | 22 |
| 39 | 481 | 805 | .3178 | 277 | 21 |
| 40 | .18509 | .18835 | 5.3093 | .98272 | 20 |
| 41 | 538 | 865 | .3008 | 267 | 19 |
| 42 | 567 | 895 | .2924 | 261 | 18 |
| 43 | 595 | 925 | .2839 | 256 | 17 |
| 44 | 624 | 955 | .2755 | 250 | 16 |
| 45 | .18652 | .18986 | 5.2672 | .98245 | 15 |
| 46 | 681 | .19016 | .2588 | 240 | 14 |
| 47 | 710 | 046 | .2505 | 234 | 13 |
| 48 | 738 | 076 | .2422 | 229 | 12 |
| 49 | 767 | 106 | .2339 | 223 | 11 |
| 50 | .18795 | .19136 | 5.2257 | .98218 | 10 |
| 51 | 824 | 166 | .2174 | 212 | 9 |
| 52 | 852 | 197 | .2092 | 207 | 8 |
| 53 | 881 | 227 | .2011 | 201 | 7 |
| 54 | 910 | 257 | .1929 | 196 | 6 |
| 55 | .18938 | .19287 | 5.1848 | .98190 | 5 |
| 56 | 967 | 317 | .1767 | 185 | 4 |
| 57 | .18995 | 347 | .1686 | 179 | 3 |
| 58 | .19024 | 378 | .1606 | 174 | 2 |
| 59 | 052 | 408 | .1526 | 168 | 1 |
| 60 | .19081 | .19438 | 5.1446 | .98163 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | ' |
|----|--------|--------|--------|--------|----|
| 0 | .19081 | .19438 | 5.1446 | .98163 | 60 |
| 1 | 109 | 468 | .1366 | 157 | 59 |
| 2 | 138 | 498 | .1286 | 152 | 58 |
| 3 | 167 | 529 | .1207 | 146 | 57 |
| 4 | 195 | 559 | .1128 | 140 | 56 |
| 5 | .19224 | .19589 | 5.1049 | .98135 | 55 |
| 6 | 252 | 619 | .0970 | 129 | 54 |
| 7 | 281 | 649 | .0892 | 124 | 53 |
| 8 | 309 | 680 | .0814 | 118 | 52 |
| 9 | 338 | 710 | .0736 | 112 | 51 |
| 10 | .19366 | .19740 | 5.0658 | .98107 | 50 |
| 11 | 395 | 770 | .0581 | 101 | 49 |
| 12 | 423 | 801 | .0504 | 096 | 48 |
| 13 | 452 | 831 | .0427 | 090 | 47 |
| 14 | 481 | 861 | .0350 | 084 | 46 |
| 15 | .19509 | .19891 | 5.0273 | .98079 | 45 |
| 16 | 538 | 921 | .0197 | 073 | 44 |
| 17 | 566 | 952 | .0121 | 067 | 43 |
| 18 | 595 | .19982 | 5.0045 | 061 | 42 |
| 19 | 623 | .20012 | 4.9969 | 056 | 41 |
| 20 | .19652 | .20042 | 4.9894 | .98050 | 40 |
| 21 | 680 | 073 | .9819 | 044 | 39 |
| 22 | 709 | 103 | .9744 | 039 | 38 |
| 23 | 737 | 133 | .9669 | 033 | 37 |
| 24 | 766 | 164 | .9594 | 027 | 36 |
| 25 | .19794 | .20194 | 4.9520 | .98021 | 35 |
| 26 | 823 | 224 | .9446 | 016 | 34 |
| 27 | 851 | 254 | .9372 | 010 | 33 |
| 28 | 880 | 285 | .9298 | .98004 | 32 |
| 29 | 908 | 315 | .9225 | .97998 | 31 |
| 30 | .19937 | .20345 | 4.9152 | .97992 | 30 |
| 31 | 965 | 376 | .9078 | 987 | 29 |
| 32 | .19994 | 406 | .9006 | 981 | 28 |
| 33 | .20022 | 436 | .8933 | 975 | 27 |
| 34 | 051 | 466 | .8860 | 969 | 26 |
| 35 | .20079 | .20497 | 4.8788 | .97963 | 25 |
| 36 | 108 | 527 | .8716 | 958 | 24 |
| 37 | 136 | 557 | .8644 | 952 | 23 |
| 38 | 165 | 588 | .8573 | 946 | 22 |
| 39 | 193 | 618 | .8501 | 940 | 21 |
| 40 | .20222 | .20648 | 4.8430 | .97934 | 20 |
| 41 | 250 | 679 | .8359 | 928 | 19 |
| 42 | 279 | 709 | .8288 | 922 | 18 |
| 43 | 307 | 739 | .8218 | 916 | 17 |
| 44 | 336 | 770 | .8147 | 910 | 16 |
| 45 | .20364 | .20800 | 4.8077 | .97905 | 15 |
| 46 | 393 | 830 | .8007 | 899 | 14 |
| 47 | 421 | 861 | .7937 | 893 | 13 |
| 48 | 450 | 891 | .7867 | 887 | 12 |
| 49 | 478 | 921 | .7798 | 881 | 11 |
| 50 | .20507 | .20952 | 4.7729 | .97875 | 10 |
| 51 | 535 | .20982 | .7659 | 869 | 9 |
| 52 | 563 | .21013 | .7591 | 863 | 8 |
| 53 | 592 | 045 | .7522 | 857 | 7 |
| 54 | 620 | 073 | .7453 | 851 | 6 |
| 55 | .20649 | .21104 | 4.7385 | .97845 | 5 |
| 56 | 677 | 134 | .7317 | 839 | 4 |
| 57 | 706 | 164 | .7249 | 833 | 3 |
| 58 | 734 | 195 | .7181 | 827 | 2 |
| 59 | 763 | 225 | .7114 | 821 | 1 |
| 60 | .20791 | .21256 | 4.7046 | .97815 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | |
|----|--------|--------|--------|--------|----|
| 0 | .20791 | .21256 | 4.7046 | .97815 | 60 |
| 1 | 820 | 286 | .6979 | 809 | 59 |
| 2 | 848 | 316 | .6912 | 803 | 58 |
| 3 | 877 | 347 | .6845 | 797 | 57 |
| 4 | 905 | 377 | .6779 | 791 | 56 |
| 5 | .20933 | .21408 | 4.6712 | .97784 | 55 |
| 6 | 962 | 438 | .6646 | 778 | 54 |
| 7 | .20990 | 469 | .6580 | 772 | 53 |
| 8 | .21019 | 499 | .6514 | 766 | 52 |
| 9 | 047 | 529 | .6448 | 760 | 51 |
| 10 | .21076 | .21560 | 4.6382 | .97754 | 50 |
| 11 | 104 | 590 | .6317 | 748 | 49 |
| 12 | 132 | 621 | .6252 | 742 | 48 |
| 13 | 161 | 651 | .6187 | 735 | 47 |
| 14 | 189 | 682 | .6122 | 729 | 46 |
| 15 | .21218 | .21712 | 4.6057 | .97723 | 45 |
| 16 | 246 | 743 | .5993 | 717 | 44 |
| 17 | 275 | 773 | .5928 | 711 | 43 |
| 18 | 303 | 804 | .5864 | 705 | 42 |
| 19 | 331 | 834 | .5800 | 698 | 41 |
| 20 | .21360 | .21864 | 4.5736 | .97692 | 40 |
| 21 | 388 | 895 | .5673 | 686 | 39 |
| 22 | 417 | 925 | .5609 | 680 | 38 |
| 23 | 445 | 956 | .5546 | 673 | 37 |
| 24 | 474 | .21986 | .5483 | 667 | 36 |
| 25 | .21502 | .22017 | 4.5420 | .97661 | 35 |
| 26 | 530 | 047 | .5357 | 655 | 34 |
| 27 | 559 | 078 | .5294 | 648 | 33 |
| 28 | 587 | 108 | .5232 | 642 | 32 |
| 29 | 616 | 139 | .5169 | 636 | 31 |
| 30 | .21644 | .22169 | 4.5107 | .97630 | 30 |
| 31 | 672 | 200 | .5045 | 623 | 29 |
| 32 | 701 | 231 | .4983 | 617 | 28 |
| 33 | 729 | 261 | .4922 | 611 | 27 |
| 34 | 758 | 292 | .4860 | 604 | 26 |
| 35 | .21786 | .22322 | 4.4799 | .97598 | 25 |
| 36 | 814 | 353 | .4737 | 592 | 24 |
| 37 | 843 | 383 | .4676 | 585 | 23 |
| 38 | 871 | 414 | .4615 | 579 | 22 |
| 39 | 899 | 444 | .4555 | 573 | 21 |
| 40 | .21928 | .22475 | 4.4494 | .97566 | 20 |
| 41 | 956 | 505 | .4434 | 560 | 19 |
| 42 | .21985 | 536 | .4373 | 553 | 18 |
| 43 | .22013 | 567 | .4313 | 547 | 17 |
| 44 | 041 | 597 | .4253 | 541 | 16 |
| 45 | .22070 | .22628 | 4.4194 | .97534 | 15 |
| 46 | 098 | 658 | .4134 | 528 | 14 |
| 47 | 126 | 689 | .4075 | 521 | 13 |
| 48 | 155 | 719 | .4015 | 515 | 12 |
| 49 | 183 | 750 | .3956 | 508 | 11 |
| 50 | .22212 | .22781 | 4.3897 | .97502 | 10 |
| 51 | 240 | 811 | .3838 | 496 | 9 |
| 52 | 268 | 842 | .3779 | 489 | 8 |
| 53 | 297 | 872 | .3721 | 483 | 7 |
| 54 | 325 | 903 | .3662 | 476 | 6 |
| 55 | .22353 | .22934 | 4.3604 | .97470 | 5 |
| 56 | 382 | 964 | .3546 | 463 | 4 |
| 57 | 410 | .22995 | .3488 | 457 | 3 |
| 58 | 438 | .23026 | .3430 | 450 | 2 |
| 59 | 467 | 056 | .3372 | 444 | 1 |
| 60 | .22495 | .23087 | 4.3315 | .97437 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | |
|----|--------|--------|--------|--------|----|
| 0 | .22495 | .23087 | 4.3315 | .97437 | 60 |
| 1 | 523 | 117 | .3257 | 430 | 59 |
| 2 | 552 | 148 | .3200 | 424 | 58 |
| 3 | 580 | 179 | .3143 | 417 | 57 |
| 4 | 608 | 209 | .3086 | 411 | 56 |
| 5 | .22637 | .23240 | 4.3029 | .97404 | 55 |
| 6 | 665 | 271 | .2972 | 398 | 54 |
| 7 | 693 | 301 | .2916 | 391 | 53 |
| 8 | 722 | 332 | .2859 | 384 | 52 |
| 9 | 750 | 363 | .2803 | 378 | 51 |
| 10 | .22778 | .23393 | 4.2747 | .97371 | 50 |
| 11 | 807 | 424 | .2691 | 365 | 49 |
| 12 | 835 | 455 | .2635 | 358 | 48 |
| 13 | 863 | 485 | .2580 | 351 | 47 |
| 14 | 892 | 516 | .2524 | 345 | 46 |
| 15 | .22920 | .23547 | 4.2468 | .97338 | 45 |
| 16 | 948 | 578 | .2413 | 331 | 44 |
| 17 | .22977 | 608 | .2358 | 325 | 43 |
| 18 | .23005 | 639 | .2303 | 318 | 42 |
| 19 | 033 | 670 | .2248 | 311 | 41 |
| 20 | .23062 | .23700 | 4.2193 | .97304 | 40 |
| 21 | 090 | 731 | .2139 | 298 | 39 |
| 22 | 118 | 762 | .2084 | 291 | 38 |
| 23 | 146 | 793 | .2030 | 284 | 37 |
| 24 | 175 | 823 | .1976 | 278 | 36 |
| 25 | .23203 | .23854 | 4.1922 | .97271 | 35 |
| 26 | 231 | 885 | .1868 | 264 | 34 |
| 27 | 260 | 916 | .1814 | 257 | 33 |
| 28 | 288 | 946 | .1760 | 251 | 32 |
| 29 | 316 | .23977 | .1706 | 244 | 31 |
| 30 | .23345 | .24008 | 4.1653 | .97237 | 30 |
| 31 | 373 | 039 | .1600 | 230 | 29 |
| 32 | 401 | 069 | .1547 | 223 | 28 |
| 33 | 429 | 100 | .1493 | 217 | 27 |
| 34 | 458 | 131 | .1441 | 210 | 26 |
| 35 | .23486 | .24162 | 4.1388 | .97203 | 25 |
| 36 | 514 | 193 | .1335 | 196 | 24 |
| 37 | 542 | 223 | .1282 | 189 | 23 |
| 38 | 571 | 254 | .1230 | 182 | 22 |
| 39 | 599 | 285 | .1178 | 176 | 21 |
| 40 | .23627 | .24316 | 4.1126 | .97169 | 20 |
| 41 | 656 | 347 | .1074 | 162 | 19 |
| 42 | 684 | 377 | .1022 | 155 | 18 |
| 43 | 712 | 408 | .0970 | 148 | 17 |
| 44 | 740 | 439 | .0918 | 141 | 16 |
| 45 | .23769 | .24470 | 4.0867 | .97134 | 15 |
| 46 | 797 | 501 | .0815 | 127 | 14 |
| 47 | 825 | 532 | .0764 | 120 | 13 |
| 48 | 853 | 562 | .0713 | 113 | 12 |
| 49 | 882 | 593 | .0662 | 106 | 11 |
| 50 | .23910 | .24624 | 4.0611 | .97100 | 10 |
| 51 | 938 | 655 | .0560 | 093 | 9 |
| 52 | 966 | 686 | .0509 | 086 | 8 |
| 53 | .23995 | 717 | .0459 | 079 | 7 |
| 54 | .24023 | 747 | .0408 | 072 | 6 |
| 55 | .24051 | .24778 | 4.0358 | .97065 | 5 |
| 56 | 079 | 809 | .0308 | 058 | 4 |
| 57 | 108 | 840 | .0257 | 051 | 3 |
| 58 | 136 | 871 | .0207 | 044 | 2 |
| 59 | 164 | 902 | .0158 | 037 | 1 |
| 60 | .24192 | .24933 | 4.0108 | .97030 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | ' |
|-----|--------|--------|--------|--------|----|
| 0 | .24192 | .24933 | 4.0108 | .97030 | 60 |
| 1 | 220 | 964 | .0058 | 023 | 59 |
| 2 | 249 | .24995 | 4.0009 | 015 | 58 |
| 3 | 277 | .25026 | 3.9959 | 008 | 57 |
| 4 | 305 | 056 | .9910 | .97001 | 56 |
| 5 | .24333 | .25087 | 3.9861 | .96994 | 55 |
| 6 | 362 | 118 | .9812 | 987 | 54 |
| 7 | 390 | 149 | .9763 | 980 | 53 |
| 8 | 418 | 180 | .9714 | 973 | 52 |
| 9 | 446 | 211 | .9665 | 966 | 51 |
| 10 | .24474 | .25242 | 3.9617 | .96959 | 50 |
| 11 | 503 | 273 | .9568 | 952 | 49 |
| 12 | 531 | 304 | .9520 | 945 | 48 |
| 13 | 559 | 335 | .9471 | 937 | 47 |
| 14 | 587 | 366 | .9423 | 930 | 46 |
| 15 | .24615 | .25397 | 3.9375 | .96923 | 45 |
| 16 | 644 | 428 | .9327 | 916 | 44 |
| 17 | 672 | 459 | .9279 | 909 | 43 |
| 18 | 700 | 490 | .9232 | 902 | 42 |
| 19 | 728 | 521 | .9184 | 894 | 41 |
| 20 | .24756 | .25552 | 3.9136 | .96887 | 40 |
| 21 | 784 | 583 | .9089 | 880 | 39 |
| 22 | 813 | 614 | .9042 | 873 | 38 |
| 23 | 841 | 645 | .8995 | 866 | 37 |
| 24 | 869 | 676 | .8947 | 858 | 36 |
| 25 | .24897 | .25707 | 3.8900 | .96851 | 35 |
| 26 | 925 | 738 | .8854 | 844 | 34 |
| 27 | 954 | 769 | .8807 | 837 | 33 |
| 28 | .24982 | 800 | .8760 | 829 | 32 |
| 29 | .25010 | 831 | .8714 | 822 | 31 |
| 30 | .25038 | .25862 | 3.8667 | .96815 | 30 |
| 31 | 066 | 893 | .8621 | 807 | 29 |
| 32 | 094 | 924 | .8575 | 800 | 28 |
| 33 | 122 | 955 | .8528 | 793 | 27 |
| 34 | 151 | .25986 | .8482 | 786 | 26 |
| 35 | .25179 | .26017 | 3.8436 | .96778 | 25 |
| 36 | 207 | 048 | .8391 | 771 | 24 |
| 37 | 235 | 079 | .8345 | 764 | 23 |
| 38 | 263 | 110 | .8299 | 756 | 22 |
| 39 | 291 | 141 | .8254 | 749 | 21 |
| 40 | .25320 | .26172 | 3.8208 | .96742 | 20 |
| 41 | 348 | 203 | .8163 | 734 | 19 |
| 42 | 376 | 235 | .8118 | 727 | 18 |
| 43 | 404 | 266 | .8073 | 719 | 17 |
| 44 | 432 | 297 | .8028 | 712 | 16 |
| 45 | .25460 | .26328 | 3.7983 | .96705 | 15 |
| 46 | 488 | 359 | .7938 | 697 | 14 |
| 47 | 516 | 390 | .7893 | 690 | 13 |
| 48 | 545 | 421 | .7848 | 682 | 12 |
| 49 | 573 | 452 | .7804 | 675 | 11 |
| 50 | .25601 | .26483 | 3.7760 | .96667 | 10 |
| 51 | 629 | 515 | .7715 | 660 | 9 |
| 52 | 657 | 546 | .7671 | 653 | 8 |
| 53 | 685 | 577 | .7627 | 645 | 7 |
| 54 | 713 | 608 | .7583 | 638 | 6 |
| 55 | .25741 | .26639 | 3.7539 | .96630 | 5 |
| 56 | 769 | 670 | .7495 | 623 | 4 |
| 57 | 798 | 701 | .7451 | 615 | 3 |
| 58 | 826 | 733 | .7408 | 608 | 2 |
| 59 | 854 | 764 | .7364 | 600 | 1 |
| 60 | .25882 | .26795 | 3.7321 | .96593 | 0 |
| Cos | Ctn | Tan | Sin | ' | |

75°

| ' | Sin | Tan | Ctn | Cos | ' |
|-----|--------|--------|--------|--------|----|
| 0 | .25882 | .26795 | 3.7321 | .96593 | 60 |
| 1 | 910 | 826 | .7277 | 585 | 59 |
| 2 | 938 | 857 | .7234 | 578 | 58 |
| 3 | 966 | 888 | .7191 | 570 | 57 |
| 4 | .25994 | 920 | .7148 | 562 | 56 |
| 5 | .26022 | .26951 | 3.7105 | .96555 | 55 |
| 6 | 050 | .26982 | .7062 | 547 | 54 |
| 7 | 079 | .27013 | .7019 | 540 | 53 |
| 8 | 107 | 044 | .6976 | 532 | 52 |
| 9 | 135 | 076 | .6933 | 524 | 51 |
| 10 | .26163 | .27107 | 3.6891 | .96517 | 50 |
| 11 | 191 | 138 | .6848 | 509 | 49 |
| 12 | 219 | 169 | .6806 | 502 | 48 |
| 13 | 247 | 201 | .6764 | 494 | 47 |
| 14 | 275 | 232 | .6722 | 486 | 46 |
| 15 | .26303 | .27263 | 3.6680 | .96479 | 45 |
| 16 | 331 | 294 | .6638 | 471 | 44 |
| 17 | 359 | 326 | .6596 | 463 | 43 |
| 18 | 387 | 357 | .6554 | 456 | 42 |
| 19 | 415 | 388 | .6512 | 448 | 41 |
| 20 | .26443 | .27419 | 3.6470 | .96440 | 40 |
| 21 | 471 | 451 | .6429 | 433 | 39 |
| 22 | 500 | 482 | .6387 | 425 | 38 |
| 23 | 528 | 513 | .6346 | 417 | 37 |
| 24 | 556 | 545 | .6305 | 410 | 36 |
| 25 | .26584 | .27576 | 3.6264 | .96402 | 35 |
| 26 | 612 | 607 | .6222 | 394 | 34 |
| 27 | 640 | 638 | .6181 | 386 | 33 |
| 28 | 668 | 670 | .6140 | 379 | 32 |
| 29 | 696 | 701 | .6100 | 371 | 31 |
| 30 | .26724 | .27732 | 3.6059 | .96363 | 30 |
| 31 | 752 | 764 | .6018 | 355 | 29 |
| 32 | 780 | 795 | .5978 | 347 | 28 |
| 33 | 808 | 826 | .5937 | 340 | 27 |
| 34 | 836 | 858 | .5897 | 332 | 26 |
| 35 | .26864 | .27889 | 3.5856 | .96324 | 25 |
| 36 | 892 | 921 | .5816 | 316 | 24 |
| 37 | 920 | 952 | .5776 | 308 | 23 |
| 38 | 948 | .27983 | .5736 | 301 | 22 |
| 39 | .26976 | .28015 | .5696 | 293 | 21 |
| 40 | .27004 | .28046 | 3.5656 | .96285 | 20 |
| 41 | 032 | 077 | .5616 | 277 | 19 |
| 42 | 060 | 109 | .5576 | 269 | 18 |
| 43 | 088 | 140 | .5536 | 261 | 17 |
| 44 | 116 | 172 | .5497 | 253 | 16 |
| 45 | .27144 | .28203 | 3.5457 | .96246 | 15 |
| 46 | 172 | 234 | .5418 | 238 | 14 |
| 47 | 200 | 266 | .5379 | 230 | 13 |
| 48 | 228 | 297 | .5339 | 222 | 12 |
| 49 | 256 | 329 | .5300 | 214 | 11 |
| 50 | .27284 | .28360 | 3.5261 | .96206 | 10 |
| 51 | 312 | 391 | .5222 | 198 | 9 |
| 52 | 340 | 423 | .5183 | 190 | 8 |
| 53 | 368 | 454 | .5144 | 182 | 7 |
| 54 | 396 | 486 | .5105 | 174 | 6 |
| 55 | .27424 | .28517 | 3.5067 | .96166 | 5 |
| 56 | 452 | 549 | .5028 | 158 | 4 |
| 57 | 480 | 580 | .4989 | 150 | 3 |
| 58 | 508 | 612 | .4951 | 142 | 2 |
| 59 | 536 | 643 | .4912 | 134 | 1 |
| 60 | .27564 | .28675 | 3.4874 | .96126 | 0 |
| Cos | Ctn | Tan | Sin | ' | |

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| ' | Sin | Tan | Ctn | Cos | ' |
|----|--------|--------|--------|--------|----|
| 0 | .27564 | .28675 | 3.4874 | .96126 | 60 |
| 1 | 592 | 706 | .4836 | 118 | 59 |
| 2 | 620 | 738 | .4798 | 110 | 58 |
| 3 | 648 | 769 | .4760 | 102 | 57 |
| 4 | 676 | 801 | .4722 | 094 | 56 |
| 5 | .27704 | .28832 | 3.4684 | .96086 | 55 |
| 6 | 731 | 864 | .4646 | 078 | 54 |
| 7 | 759 | 895 | .4608 | 070 | 53 |
| 8 | 787 | 927 | .4570 | 062 | 52 |
| 9 | 815 | 958 | .4533 | 054 | 51 |
| 10 | .27843 | .28990 | 3.4495 | .96046 | 50 |
| 11 | 871 | .29021 | .4458 | 037 | 49 |
| 12 | 899 | 053 | .4420 | 029 | 48 |
| 13 | 927 | 084 | .4383 | 021 | 47 |
| 14 | 955 | 116 | .4346 | 013 | 46 |
| 15 | .27983 | .29147 | 3.4308 | .96005 | 45 |
| 16 | .28011 | 179 | .4271 | .95997 | 44 |
| 17 | 039 | 210 | .4234 | 989 | 43 |
| 18 | 067 | 242 | .4197 | 981 | 42 |
| 19 | 095 | 274 | .4160 | 972 | 41 |
| 20 | .28123 | .29305 | 3.4124 | .95964 | 40 |
| 21 | 150 | 337 | .4087 | 956 | 39 |
| 22 | 178 | 368 | .4050 | 948 | 38 |
| 23 | 206 | 400 | .4014 | 940 | 37 |
| 24 | 234 | 432 | .3977 | 931 | 36 |
| 25 | .28262 | .29463 | 3.3941 | .95923 | 35 |
| 26 | 290 | 495 | .3904 | 915 | 34 |
| 27 | 318 | 526 | .3868 | 907 | 33 |
| 28 | 346 | 558 | .3832 | 898 | 32 |
| 29 | 374 | 590 | .3796 | 890 | 31 |
| 30 | .28402 | .29621 | 3.3759 | .95882 | 30 |
| 31 | 429 | 653 | .3723 | 874 | 29 |
| 32 | 457 | 685 | .3687 | 865 | 28 |
| 33 | 485 | 716 | .3652 | 857 | 27 |
| 34 | 513 | 748 | .3616 | 849 | 26 |
| 35 | .28541 | .29780 | 3.3580 | .95841 | 25 |
| 36 | 569 | 811 | .3544 | 832 | 24 |
| 37 | 597 | 843 | .3509 | 824 | 23 |
| 38 | 625 | 875 | .3473 | 816 | 22 |
| 39 | 652 | 906 | .3438 | 807 | 21 |
| 40 | .28680 | .29938 | 3.3402 | .95799 | 20 |
| 41 | 708 | .29970 | .3367 | 791 | 19 |
| 42 | 736 | .30001 | .3332 | 782 | 18 |
| 43 | 764 | 033 | .3297 | 774 | 17 |
| 44 | 792 | 065 | .3261 | 766 | 16 |
| 45 | .28820 | .30097 | 3.3226 | .95757 | 15 |
| 46 | 847 | 128 | .3191 | 749 | 14 |
| 47 | 875 | 160 | .3156 | 740 | 13 |
| 48 | 903 | 192 | .3122 | 732 | 12 |
| 49 | 931 | 224 | .3087 | 724 | 11 |
| 50 | .28959 | .30255 | 3.3052 | .95715 | 10 |
| 51 | .28987 | 287 | .3017 | 707 | 9 |
| 52 | .29015 | 319 | .2983 | 698 | 8 |
| 53 | 042 | 351 | .2948 | 690 | 7 |
| 54 | 070 | 382 | .2914 | 681 | 6 |
| 55 | .29098 | .30414 | 3.2879 | .95673 | 5 |
| 56 | 126 | 446 | .2845 | 664 | 4 |
| 57 | 154 | 478 | .2811 | 656 | 3 |
| 58 | 182 | 509 | .2777 | 647 | 2 |
| 59 | 209 | 541 | .2743 | 639 | 1 |
| 60 | .29237 | .30573 | 3.2709 | .95630 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | ' |
|----|--------|--------|--------|--------|----|
| 0 | .29237 | .30573 | 3.2709 | .95630 | 60 |
| 1 | 265 | 605 | .2675 | 622 | 59 |
| 2 | 293 | 637 | .2641 | 613 | 58 |
| 3 | 321 | 669 | .2607 | 605 | 57 |
| 4 | 348 | 700 | .2573 | 596 | 56 |
| 5 | .29376 | .30732 | 3.2539 | .95588 | 55 |
| 6 | 404 | 764 | .2506 | 579 | 54 |
| 7 | 432 | 796 | .2472 | 571 | 53 |
| 8 | 460 | 828 | .2438 | 562 | 52 |
| 9 | 487 | 860 | .2405 | 554 | 51 |
| 10 | .29515 | .30891 | 3.2371 | .95545 | 50 |
| 11 | 543 | 923 | .2338 | 536 | 49 |
| 12 | 571 | 955 | .2305 | 528 | 48 |
| 13 | 599 | .30987 | .2272 | 519 | 47 |
| 14 | 626 | .31019 | .2238 | 511 | 46 |
| 15 | .29654 | .31051 | 3.2205 | .95502 | 45 |
| 16 | 682 | 083 | .2172 | 493 | 44 |
| 17 | 710 | 115 | .2139 | 485 | 43 |
| 18 | 737 | 147 | .2106 | 476 | 42 |
| 19 | 765 | 178 | .2073 | 467 | 41 |
| 20 | .29793 | .31210 | 3.2041 | .95459 | 40 |
| 21 | 821 | 242 | .2008 | 450 | 39 |
| 22 | 849 | 274 | .1975 | 441 | 38 |
| 23 | 876 | 306 | .1943 | 433 | 37 |
| 24 | 904 | 338 | .1910 | 424 | 36 |
| 25 | .29932 | .31370 | 3.1878 | .95415 | 35 |
| 26 | 960 | 402 | .1845 | 407 | 34 |
| 27 | .29987 | 434 | .1813 | 398 | 33 |
| 28 | .30015 | 466 | .1780 | 389 | 32 |
| 29 | 043 | 498 | .1748 | 380 | 31 |
| 30 | .30071 | .31530 | 3.1716 | .95372 | 30 |
| 31 | 098 | 562 | .1684 | 363 | 29 |
| 32 | 126 | 594 | .1652 | 354 | 28 |
| 33 | 154 | 626 | .1620 | 345 | 27 |
| 34 | 182 | 658 | .1588 | 337 | 26 |
| 35 | .30209 | .31690 | 3.1556 | .95328 | 25 |
| 36 | 237 | 722 | .1524 | 319 | 24 |
| 37 | 265 | 754 | .1492 | 310 | 23 |
| 38 | 292 | 786 | .1460 | 301 | 22 |
| 39 | 320 | 818 | .1429 | 293 | 21 |
| 40 | .30348 | .31850 | 3.1397 | .95284 | 20 |
| 41 | 376 | 882 | .1366 | 275 | 19 |
| 42 | 403 | 914 | .1334 | 266 | 18 |
| 43 | 431 | 946 | .1303 | 257 | 17 |
| 44 | 459 | .31978 | .1271 | 248 | 16 |
| 45 | .30486 | .32010 | 3.1240 | .95240 | 15 |
| 46 | 514 | 042 | .1209 | 231 | 14 |
| 47 | 542 | 074 | .1178 | 222 | 13 |
| 48 | 570 | 106 | .1146 | 213 | 12 |
| 49 | 597 | 139 | .1115 | 204 | 11 |
| 50 | .30625 | .32171 | 3.1084 | .95195 | 10 |
| 51 | 653 | 203 | .1053 | 186 | 9 |
| 52 | 680 | 235 | .1022 | 177 | 8 |
| 53 | 708 | 267 | .0991 | 168 | 7 |
| 54 | 736 | 299 | .0961 | 159 | 6 |
| 55 | .30763 | .32331 | 3.0930 | .95150 | 5 |
| 56 | 791 | 363 | .0899 | 142 | 4 |
| 57 | 819 | 396 | .0868 | 133 | 3 |
| 58 | 846 | 428 | .0838 | 124 | 2 |
| 59 | 874 | 460 | .0807 | 115 | 1 |
| 60 | .30902 | .32492 | 3.0777 | .95106 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | ' |
|----|--------|--------|--------|--------|----|
| 0 | .30902 | .32492 | 3.0777 | .95106 | 60 |
| 1 | 929 | 524 | .0746 | .097 | 59 |
| 2 | 957 | 556 | .0716 | .088 | 58 |
| 3 | .30985 | 588 | .0686 | .079 | 57 |
| 4 | .31012 | 621 | .0655 | .070 | 56 |
| 5 | .31040 | .32653 | 3.0625 | .95061 | 55 |
| 6 | 068 | 685 | .0595 | .052 | 54 |
| 7 | 095 | 717 | .0565 | .043 | 53 |
| 8 | 123 | 749 | .0535 | .033 | 52 |
| 9 | 151 | 782 | .0505 | .024 | 51 |
| 10 | .31178 | .32814 | 3.0475 | .95015 | 50 |
| 11 | 206 | 846 | .0445 | .95006 | 49 |
| 12 | 233 | 878 | .0415 | .94997 | 48 |
| 13 | 261 | 911 | .0385 | .988 | 47 |
| 14 | 289 | 943 | .0356 | .979 | 46 |
| 15 | .31316 | .32975 | 3.0326 | .94970 | 45 |
| 16 | 344 | .33007 | .0296 | .961 | 44 |
| 17 | 372 | 040 | .0267 | .952 | 43 |
| 18 | 399 | 072 | .0237 | .943 | 42 |
| 19 | 427 | 104 | .0208 | .933 | 41 |
| 20 | .31454 | .33136 | 3.0178 | .94924 | 40 |
| 21 | 482 | 169 | .0149 | .915 | 39 |
| 22 | 510 | 201 | .0120 | .906 | 38 |
| 23 | 537 | 233 | .0090 | .897 | 37 |
| 24 | 565 | 266 | .0061 | .888 | 36 |
| 25 | .31593 | .33298 | 3.0032 | .94878 | 35 |
| 26 | 620 | 330 | 3.0003 | .869 | 34 |
| 27 | 648 | 363 | 2.9974 | .860 | 33 |
| 28 | 675 | 395 | .9945 | .851 | 32 |
| 29 | 703 | 427 | .9916 | .842 | 31 |
| 30 | .31730 | .33460 | 2.9887 | .94832 | 30 |
| 31 | 758 | 492 | .9858 | .823 | 29 |
| 32 | 786 | 524 | .9829 | .814 | 28 |
| 33 | 813 | 557 | .9800 | .805 | 27 |
| 34 | 841 | 589 | .9772 | .795 | 26 |
| 35 | .31868 | .33621 | 2.9743 | .94786 | 25 |
| 36 | 896 | 654 | .9714 | .777 | 24 |
| 37 | 923 | 686 | .9686 | .768 | 23 |
| 38 | 951 | 718 | .9657 | .758 | 22 |
| 39 | .31979 | 751 | .9629 | .749 | 21 |
| 40 | .32006 | .33783 | 2.9600 | .94740 | 20 |
| 41 | 034 | 816 | .9572 | .730 | 19 |
| 42 | 061 | 848 | .9544 | .721 | 18 |
| 43 | 089 | 881 | .9515 | .712 | 17 |
| 44 | 116 | 913 | .9487 | .702 | 16 |
| 45 | .32144 | .33945 | 2.9459 | .94693 | 15 |
| 46 | 171 | .33978 | .9431 | .684 | 14 |
| 47 | 199 | .34010 | .9403 | .674 | 13 |
| 48 | 227 | 043 | .9375 | .665 | 12 |
| 49 | 254 | 075 | .9347 | .656 | 11 |
| 50 | .32282 | .34108 | 2.9319 | .94646 | 10 |
| 51 | 309 | 140 | .9291 | .637 | 9 |
| 52 | 337 | 173 | .9263 | .627 | 8 |
| 53 | 364 | 205 | .9235 | .618 | 7 |
| 54 | 392 | 238 | .9208 | .609 | 6 |
| 55 | .32419 | .34270 | 2.9180 | .94599 | 5 |
| 56 | 447 | 303 | .9152 | .590 | 4 |
| 57 | 474 | 335 | .9125 | .580 | 3 |
| 58 | 502 | 368 | .9097 | .571 | 2 |
| 59 | 529 | 400 | .9070 | .561 | 1 |
| 60 | .32557 | .34433 | 2.9042 | .94552 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | ' |
|----|--------|--------|--------|--------|----|
| 0 | .32557 | .34433 | 2.9042 | .94552 | 60 |
| 1 | 584 | 465 | .9015 | .542 | 59 |
| 2 | 612 | 498 | .8987 | .533 | 58 |
| 3 | 639 | 530 | .8960 | .523 | 57 |
| 4 | 667 | 563 | .8933 | .514 | 56 |
| 5 | .32694 | .34596 | 2.8905 | .94504 | 55 |
| 6 | 722 | 628 | .8878 | .495 | 54 |
| 7 | 749 | 661 | .8851 | .485 | 53 |
| 8 | 777 | 693 | .8824 | .476 | 52 |
| 9 | 804 | 726 | .8797 | .466 | 51 |
| 10 | .32832 | .34758 | 2.8770 | .94457 | 50 |
| 11 | 859 | 791 | .8743 | .447 | 49 |
| 12 | 887 | 824 | .8716 | .438 | 48 |
| 13 | 914 | 856 | .8689 | .428 | 47 |
| 14 | 942 | 889 | .8662 | .418 | 46 |
| 15 | .32969 | .34922 | 2.8636 | .94409 | 45 |
| 16 | .32967 | 954 | .8609 | .399 | 44 |
| 17 | .33024 | .34987 | .8582 | .390 | 43 |
| 18 | 051 | .35020 | .8556 | .380 | 42 |
| 19 | 079 | 052 | .8529 | .370 | 41 |
| 20 | .33106 | .35085 | 2.8502 | .94361 | 40 |
| 21 | 134 | 118 | .8476 | .351 | 39 |
| 22 | 161 | 150 | .8449 | .342 | 38 |
| 23 | 189 | 183 | .8423 | .332 | 37 |
| 24 | 216 | 216 | .8397 | .322 | 36 |
| 25 | .33244 | .35248 | 2.8370 | .94313 | 35 |
| 26 | 271 | 281 | .8344 | .303 | 34 |
| 27 | 298 | 314 | .8318 | .293 | 33 |
| 28 | 326 | 346 | .8291 | .284 | 32 |
| 29 | 353 | 379 | .8265 | .274 | 31 |
| 30 | .33381 | .35412 | 2.8239 | .94264 | 30 |
| 31 | 408 | 445 | .8213 | .254 | 29 |
| 32 | 436 | 477 | .8187 | .245 | 28 |
| 33 | 463 | 510 | .8161 | .235 | 27 |
| 34 | 490 | 543 | .8135 | .225 | 26 |
| 35 | .33518 | .35576 | 2.8109 | .94215 | 25 |
| 36 | 545 | 608 | .8083 | .206 | 24 |
| 37 | 573 | 641 | .8057 | .196 | 23 |
| 38 | 600 | 674 | .8032 | .186 | 22 |
| 39 | 627 | 707 | .8006 | .176 | 21 |
| 40 | .33655 | .35740 | 2.7980 | .94167 | 20 |
| 41 | 682 | 772 | .7955 | .157 | 19 |
| 42 | 710 | 805 | .7929 | .147 | 18 |
| 43 | 737 | 838 | .7903 | .137 | 17 |
| 44 | 764 | 871 | .7878 | .127 | 16 |
| 45 | .33792 | .35904 | 2.7852 | .94118 | 15 |
| 46 | 819 | 937 | .7827 | .108 | 14 |
| 47 | 846 | .35969 | .7801 | .098 | 13 |
| 48 | 874 | .36002 | .7776 | .088 | 12 |
| 49 | 901 | 035 | .7751 | .078 | 11 |
| 50 | .33929 | .36068 | 2.7725 | .94068 | 10 |
| 51 | 956 | 101 | .7700 | .058 | 9 |
| 52 | .33983 | 134 | .7675 | .049 | 8 |
| 53 | .34011 | 167 | .7650 | .039 | 7 |
| 54 | 038 | 199 | .7625 | .029 | 6 |
| 55 | .34065 | .36232 | 2.7600 | .94019 | 5 |
| 56 | 093 | 265 | .7575 | .94009 | 4 |
| 57 | 120 | 298 | .7550 | .93999 | 3 |
| 58 | 147 | 331 | .7525 | .93989 | 2 |
| 59 | 175 | 364 | .7500 | .93979 | 1 |
| 60 | .34202 | .36397 | 2.7475 | .93969 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | ' |
|----|--------|--------|--------|--------|----|
| 0 | .34202 | .36397 | 2.7475 | .93969 | 60 |
| 1 | 229 | 430 | .7450 | .959 | 59 |
| 2 | 257 | 463 | .7425 | .949 | 58 |
| 3 | 284 | 496 | .7400 | .939 | 57 |
| 4 | 311 | 529 | .7376 | .929 | 56 |
| 5 | .34339 | .36562 | 2.7351 | .93919 | 55 |
| 6 | 366 | 595 | .7326 | .909 | 54 |
| 7 | 393 | 628 | .7302 | .899 | 53 |
| 8 | 421 | 661 | .7277 | .889 | 52 |
| 9 | 448 | 694 | .7253 | .879 | 51 |
| 10 | .34475 | .36727 | 2.7228 | .93869 | 50 |
| 11 | 503 | 760 | .7204 | .859 | 49 |
| 12 | 530 | 793 | .7179 | .849 | 48 |
| 13 | 557 | 826 | .7155 | .839 | 47 |
| 14 | 584 | 859 | .7130 | .829 | 46 |
| 15 | .34612 | .36892 | 2.7106 | .93819 | 45 |
| 16 | 639 | 925 | .7082 | .809 | 44 |
| 17 | 666 | 958 | .7058 | .799 | 43 |
| 18 | 694 | .36991 | .7034 | .789 | 42 |
| 19 | 721 | .37024 | .7009 | .779 | 41 |
| 20 | .34748 | .37057 | 2.6985 | .93769 | 40 |
| 21 | 775 | 090 | .6961 | .759 | 39 |
| 22 | 803 | 123 | .6937 | .748 | 38 |
| 23 | 830 | 157 | .6913 | .738 | 37 |
| 24 | 857 | 190 | .6889 | .728 | 36 |
| 25 | .34884 | .37223 | 2.6865 | .93718 | 35 |
| 26 | 912 | 256 | .6841 | .708 | 34 |
| 27 | 939 | 289 | .6818 | .698 | 33 |
| 28 | 966 | 322 | .6794 | .688 | 32 |
| 29 | .34993 | 355 | .6770 | .677 | 31 |
| 30 | .35021 | .37388 | 2.6746 | .93667 | 30 |
| 31 | 048 | 422 | .6723 | .657 | 29 |
| 32 | 075 | 455 | .6699 | .647 | 28 |
| 33 | 102 | 488 | .6675 | .637 | 27 |
| 34 | 130 | 521 | .6652 | .626 | 26 |
| 35 | .35157 | .37554 | 2.6628 | .93616 | 25 |
| 36 | 184 | 588 | .6605 | .606 | 24 |
| 37 | 211 | 621 | .6581 | .596 | 23 |
| 38 | 239 | 654 | .6558 | .585 | 22 |
| 39 | 266 | 687 | .6534 | .575 | 21 |
| 40 | .35293 | .37720 | 2.6511 | .93565 | 20 |
| 41 | 320 | 754 | .6488 | .555 | 19 |
| 42 | 347 | 787 | .6464 | .544 | 18 |
| 43 | 375 | 820 | .6441 | .534 | 17 |
| 44 | 402 | 853 | .6418 | .524 | 16 |
| 45 | .35429 | .37887 | 2.6395 | .93514 | 15 |
| 46 | 456 | 920 | .6371 | .503 | 14 |
| 47 | 484 | 953 | .6348 | .493 | 13 |
| 48 | 511 | .37986 | .6325 | .483 | 12 |
| 49 | 538 | .38020 | .6302 | .472 | 11 |
| 50 | .35565 | .38053 | 2.6279 | .93462 | 10 |
| 51 | 592 | 086 | .6256 | .452 | 9 |
| 52 | 619 | 120 | .6233 | .441 | 8 |
| 53 | 647 | 153 | .6210 | .431 | 7 |
| 54 | 674 | 186 | .6187 | .420 | 6 |
| 55 | .35701 | .38220 | 2.6165 | .93410 | 5 |
| 56 | 728 | 253 | .6162 | .400 | 4 |
| 57 | 755 | 286 | .6119 | .389 | 3 |
| 58 | 782 | 320 | .6096 | .379 | 2 |
| 59 | 810 | 353 | .6074 | .368 | 1 |
| 60 | .35837 | .38386 | 2.6051 | .93358 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | ' |
|----|--------|--------|--------|--------|----|
| 0 | .35837 | .38386 | 2.6051 | .93358 | 60 |
| 1 | 864 | 420 | .6028 | .948 | 59 |
| 2 | 891 | 453 | .6006 | .937 | 58 |
| 3 | 918 | 487 | .5983 | .927 | 57 |
| 4 | 945 | 520 | .5961 | .916 | 56 |
| 5 | .35973 | .38553 | 2.5938 | .93306 | 55 |
| 6 | .36000 | 587 | .5916 | .905 | 54 |
| 7 | 027 | 620 | .5893 | .895 | 53 |
| 8 | 054 | 654 | .5871 | .884 | 52 |
| 9 | 081 | 687 | .5848 | .874 | 51 |
| 10 | .36108 | .38721 | 2.5826 | .93253 | 50 |
| 11 | 135 | 754 | .5804 | .863 | 49 |
| 12 | 162 | 787 | .5782 | .853 | 48 |
| 13 | 190 | 821 | .5759 | .842 | 47 |
| 14 | 217 | 854 | .5737 | .831 | 46 |
| 15 | .36244 | .38888 | 2.5715 | .93201 | 45 |
| 16 | 271 | 921 | .5693 | .820 | 44 |
| 17 | 298 | 955 | .5671 | .809 | 43 |
| 18 | 325 | .38988 | .5649 | .798 | 42 |
| 19 | 352 | .39022 | .5627 | .787 | 41 |
| 20 | .36379 | .39055 | 2.5605 | .93148 | 40 |
| 21 | 406 | 089 | .5583 | .776 | 39 |
| 22 | 434 | 122 | .5561 | .765 | 38 |
| 23 | 461 | 156 | .5539 | .754 | 37 |
| 24 | 488 | 190 | .5517 | .743 | 36 |
| 25 | .36515 | .39223 | 2.5495 | .93095 | 35 |
| 26 | 542 | 257 | .5473 | .732 | 34 |
| 27 | 569 | 290 | .5452 | .721 | 33 |
| 28 | 596 | 324 | .5430 | .710 | 32 |
| 29 | 623 | 357 | .5408 | .699 | 31 |
| 30 | .36650 | .39391 | 2.5386 | .93042 | 30 |
| 31 | 677 | 425 | .5365 | .688 | 29 |
| 32 | 704 | 458 | .5343 | .677 | 28 |
| 33 | 731 | 492 | .5322 | .666 | 27 |
| 34 | 758 | 526 | .5300 | .655 | 26 |
| 35 | .36785 | .39559 | 2.5279 | .92988 | 25 |
| 36 | 812 | 563 | .5257 | .644 | 24 |
| 37 | 839 | 626 | .5236 | .633 | 23 |
| 38 | 867 | 660 | .5214 | .622 | 22 |
| 39 | 894 | 694 | .5193 | .611 | 21 |
| 40 | .36921 | .39727 | 2.5172 | .92935 | 20 |
| 41 | 948 | 761 | .5150 | .600 | 19 |
| 42 | .36975 | 795 | .5129 | .589 | 18 |
| 43 | .37002 | 829 | .5108 | .578 | 17 |
| 44 | 029 | 862 | .5086 | .567 | 16 |
| 45 | .37056 | .39896 | 2.5065 | .92881 | 15 |
| 46 | 083 | 930 | .5044 | .556 | 14 |
| 47 | 110 | 963 | .5023 | .545 | 13 |
| 48 | 137 | .39997 | .5002 | .534 | 12 |
| 49 | 164 | .40031 | .4981 | .523 | 11 |
| 50 | .37191 | .40065 | 2.4960 | .92827 | 10 |
| 51 | 218 | 098 | .4939 | .512 | 9 |
| 52 | 245 | 132 | .4918 | .501 | 8 |
| 53 | 272 | 166 | .4897 | .490 | 7 |
| 54 | 299 | 200 | .4876 | .479 | 6 |
| 55 | .37326 | .40234 | 2.4855 | .92773 | 5 |
| 56 | 353 | 267 | .4834 | .468 | 4 |
| 57 | 380 | 301 | .4813 | .457 | 3 |
| 58 | 407 | 335 | .4792 | .446 | 2 |
| 59 | 434 | 369 | .4772 | .435 | 1 |
| 60 | .37461 | .40403 | 2.4751 | .92718 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | |
|----|--------|--------|--------|--------|-----------|
| 0 | .37461 | .40403 | 2.4751 | .92718 | 60 |
| 1 | .488 | .436 | .4730 | 707 | 59 |
| 2 | .515 | .470 | .4709 | 697 | 58 |
| 3 | .542 | .504 | .4689 | 686 | 57 |
| 4 | .569 | .538 | .4668 | 675 | 56 |
| 5 | .37595 | .40572 | 2.4648 | .92664 | 55 |
| 6 | .622 | .606 | .4627 | 653 | 54 |
| 7 | .649 | .640 | .4606 | 642 | 53 |
| 8 | .676 | .674 | .4586 | 631 | 52 |
| 9 | .703 | .707 | .4566 | 620 | 51 |
| 10 | .37730 | .40741 | 2.4545 | .92609 | 50 |
| 11 | .757 | .775 | .4525 | 598 | 49 |
| 12 | .784 | .809 | .4504 | 587 | 48 |
| 13 | .811 | .843 | .4484 | 576 | 47 |
| 14 | .838 | .877 | .4464 | 565 | 46 |
| 15 | .37865 | .40911 | 2.4443 | .92554 | 45 |
| 16 | .892 | .945 | .4423 | 543 | 44 |
| 17 | .919 | .40979 | .4403 | 532 | 43 |
| 18 | .946 | .41013 | .4383 | 521 | 42 |
| 19 | .973 | .047 | .4362 | 510 | 41 |
| 20 | .37909 | .41081 | 2.4342 | .92499 | 40 |
| 21 | .38026 | .115 | .4322 | 488 | 39 |
| 22 | .053 | .149 | .4302 | 477 | 38 |
| 23 | .080 | .183 | .4282 | 466 | 37 |
| 24 | .107 | .217 | .4262 | 455 | 36 |
| 25 | .38134 | .41251 | 2.4242 | .92444 | 35 |
| 26 | .161 | .285 | .4222 | 432 | 34 |
| 27 | .188 | .319 | .4202 | 421 | 33 |
| 28 | .215 | .353 | .4182 | 410 | 32 |
| 29 | .241 | .387 | .4162 | 399 | 31 |
| 30 | .38268 | .41421 | 2.4142 | .92388 | 30 |
| 31 | .295 | .455 | .4122 | 377 | 29 |
| 32 | .322 | .490 | .4102 | 366 | 28 |
| 33 | .349 | .524 | .4083 | 355 | 27 |
| 34 | .376 | .558 | .4063 | 343 | 26 |
| 35 | .38403 | .41592 | 2.4043 | .92332 | 25 |
| 36 | .430 | .626 | .4023 | 321 | 24 |
| 37 | .456 | .660 | .4004 | 310 | 23 |
| 38 | .483 | .694 | .3984 | 299 | 22 |
| 39 | .510 | .728 | .3964 | 287 | 21 |
| 40 | .38537 | .41763 | 2.3945 | .92276 | 20 |
| 41 | .564 | .797 | .3925 | 265 | 19 |
| 42 | .591 | .831 | .3906 | 254 | 18 |
| 43 | .617 | .865 | .3886 | 243 | 17 |
| 44 | .644 | .899 | .3867 | 231 | 16 |
| 45 | .38671 | .41933 | 2.3847 | .92220 | 15 |
| 46 | .698 | .41968 | .3828 | 209 | 14 |
| 47 | .725 | .42002 | .3808 | 198 | 13 |
| 48 | .752 | .036 | .3789 | 186 | 12 |
| 49 | .778 | .070 | .3770 | 175 | 11 |
| 50 | .38805 | .42105 | 2.3750 | .92164 | 10 |
| 51 | .832 | .139 | .3731 | 152 | 9 |
| 52 | .859 | .173 | .3712 | 141 | 8 |
| 53 | .886 | .207 | .3693 | 130 | 7 |
| 54 | .912 | .242 | .3673 | 119 | 6 |
| 55 | .38939 | .42276 | 2.3654 | .92107 | 5 |
| 56 | .966 | .310 | .3635 | 096 | 4 |
| 57 | .38993 | .345 | .3616 | 085 | 3 |
| 58 | .39020 | .379 | .3597 | 073 | 2 |
| 59 | .046 | .413 | .3578 | 062 | 1 |
| 60 | .39073 | .42447 | 2.3559 | .92050 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | |
|----|--------|--------|--------|--------|-----------|
| 0 | .39073 | .42447 | 2.3559 | .92050 | 60 |
| 1 | .100 | .482 | .3539 | 039 | 59 |
| 2 | .127 | .516 | .3520 | 028 | 58 |
| 3 | .153 | .551 | .3501 | 016 | 57 |
| 4 | .180 | .585 | .3483 | .92005 | 56 |
| 5 | .39207 | .42619 | 2.3464 | .91994 | 55 |
| 6 | .234 | .654 | .3445 | 982 | 54 |
| 7 | .260 | .688 | .3426 | 971 | 53 |
| 8 | .287 | .722 | .3407 | 959 | 52 |
| 9 | .314 | .757 | .3388 | 948 | 51 |
| 10 | .39341 | .42791 | 2.3369 | .91936 | 50 |
| 11 | .367 | .826 | .3351 | 925 | 49 |
| 12 | .394 | .860 | .3332 | 914 | 48 |
| 13 | .421 | .894 | .3313 | 902 | 47 |
| 14 | .448 | .929 | .3294 | 891 | 46 |
| 15 | .39474 | .42963 | 2.3276 | .91879 | 45 |
| 16 | .501 | .42998 | .3257 | 868 | 44 |
| 17 | .528 | .43032 | .3238 | 856 | 43 |
| 18 | .555 | .067 | .3220 | 845 | 42 |
| 19 | .581 | .101 | .3201 | 833 | 41 |
| 20 | .39608 | .43136 | 2.3183 | .91822 | 40 |
| 21 | .635 | .170 | .3164 | 810 | 39 |
| 22 | .661 | .205 | .3146 | 799 | 38 |
| 23 | .688 | .239 | .3127 | 787 | 37 |
| 24 | .715 | .274 | .3109 | 775 | 36 |
| 25 | .39741 | .43308 | 2.3090 | .91764 | 35 |
| 26 | .768 | .343 | .3072 | 752 | 34 |
| 27 | .795 | .378 | .3053 | 741 | 33 |
| 28 | .822 | .412 | .3035 | 729 | 32 |
| 29 | .848 | .447 | .3017 | 718 | 31 |
| 30 | .39875 | .43481 | 2.2998 | .91706 | 30 |
| 31 | .902 | .516 | .2980 | 694 | 29 |
| 32 | .928 | .550 | .2962 | 683 | 28 |
| 33 | .955 | .585 | .2944 | 671 | 27 |
| 34 | .39982 | .43654 | 2.2925 | .91648 | 26 |
| 35 | .40008 | .036 | .2907 | .91648 | 25 |
| 36 | .035 | .689 | .2889 | 636 | 24 |
| 37 | .062 | .724 | .2871 | 625 | 23 |
| 38 | .088 | .758 | .2853 | 613 | 22 |
| 39 | .115 | .793 | .2835 | 601 | 21 |
| 40 | .40141 | .43828 | 2.2817 | .91590 | 20 |
| 41 | .168 | .862 | .2799 | 578 | 19 |
| 42 | .195 | .897 | .2781 | 566 | 18 |
| 43 | .221 | .932 | .2763 | 555 | 17 |
| 44 | .248 | .43966 | .2745 | 543 | 16 |
| 45 | .40275 | .44001 | 2.2727 | .91531 | 15 |
| 46 | .301 | .036 | .2709 | 519 | 14 |
| 47 | .328 | .071 | .2691 | 508 | 13 |
| 48 | .355 | .105 | .2673 | 496 | 12 |
| 49 | .381 | .140 | .2655 | 484 | 11 |
| 50 | .40408 | .44175 | 2.2637 | .91472 | 10 |
| 51 | .434 | .210 | .2620 | 461 | 9 |
| 52 | .461 | .244 | .2602 | 449 | 8 |
| 53 | .488 | .279 | .2584 | 437 | 7 |
| 54 | .514 | .314 | .2566 | 425 | 6 |
| 55 | .40541 | .44349 | 2.2549 | .91414 | 5 |
| 56 | .567 | .384 | .2531 | 402 | 4 |
| 57 | .594 | .418 | .2513 | 390 | 3 |
| 58 | .621 | .453 | .2496 | 378 | 2 |
| 59 | .647 | .488 | .2478 | 366 | 1 |
| 60 | .40674 | .44523 | 2.2460 | .91355 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | |
|----|--------|--------|--------|--------|----|
| 0 | .40674 | .44523 | 2.2460 | .91355 | 60 |
| 1 | 700 | 558 | .2443 | 343 | 59 |
| 2 | 727 | 593 | .2425 | 331 | 58 |
| 3 | 753 | 627 | .2408 | 319 | 57 |
| 4 | 780 | 662 | .2390 | 307 | 56 |
| 5 | .40806 | .44697 | 2.2373 | .91295 | 55 |
| 6 | 833 | 732 | .2355 | 293 | 54 |
| 7 | 860 | 767 | .2338 | 272 | 53 |
| 8 | 886 | 802 | .2320 | 260 | 52 |
| 9 | 913 | 837 | .2303 | 248 | 51 |
| 10 | .40939 | .44872 | 2.2286 | .91236 | 50 |
| 11 | 966 | 907 | .2268 | 224 | 49 |
| 12 | .40992 | 942 | .2251 | 212 | 48 |
| 13 | .41019 | .44977 | .2234 | 200 | 47 |
| 14 | 045 | .45012 | .2216 | 188 | 46 |
| 15 | .41072 | .45047 | 2.2199 | .91176 | 45 |
| 16 | 098 | 082 | .2182 | 164 | 44 |
| 17 | 125 | 117 | .2165 | 152 | 43 |
| 18 | 151 | 152 | .2148 | 140 | 42 |
| 19 | 178 | 187 | .2130 | 128 | 41 |
| 20 | .41204 | .45222 | 2.2113 | .91116 | 40 |
| 21 | 231 | 257 | .2096 | 104 | 39 |
| 22 | 257 | 292 | .2079 | 092 | 38 |
| 23 | 284 | 327 | .2062 | 080 | 37 |
| 24 | 310 | 362 | .2045 | 068 | 36 |
| 25 | .41337 | .45397 | 2.2028 | .91056 | 35 |
| 26 | 363 | 432 | .2011 | 044 | 34 |
| 27 | 390 | 467 | .1994 | 032 | 33 |
| 28 | 416 | 502 | .1977 | 020 | 32 |
| 29 | 443 | 538 | .1960 | .91008 | 31 |
| 30 | .41469 | .45573 | 2.1943 | .90966 | 30 |
| 31 | 496 | 608 | .1926 | 984 | 29 |
| 32 | 522 | 643 | .1909 | 972 | 28 |
| 33 | 549 | 678 | .1892 | 960 | 27 |
| 34 | 575 | 713 | .1876 | 948 | 26 |
| 35 | .41602 | .45748 | 2.1859 | .90936 | 25 |
| 36 | 628 | 784 | .1842 | 924 | 24 |
| 37 | 655 | 819 | .1825 | 911 | 23 |
| 38 | 681 | 854 | .1808 | 899 | 22 |
| 39 | 707 | 889 | .1792 | 887 | 21 |
| 40 | .41734 | .45924 | 2.1775 | .90875 | 20 |
| 41 | 760 | 960 | .1758 | 863 | 19 |
| 42 | 787 | .45995 | .1742 | 851 | 18 |
| 43 | 813 | .46030 | .1725 | 839 | 17 |
| 44 | 840 | 065 | .1708 | 826 | 16 |
| 45 | .41866 | .46101 | 2.1692 | .90814 | 15 |
| 46 | 892 | 136 | .1675 | 802 | 14 |
| 47 | 919 | 171 | .1659 | 790 | 13 |
| 48 | 945 | 206 | .1642 | 778 | 12 |
| 49 | 972 | 242 | .1625 | 766 | 11 |
| 50 | .41998 | .46277 | 2.1609 | .90753 | 10 |
| 51 | .42024 | 312 | .1592 | 741 | 9 |
| 52 | 051 | 348 | .1576 | 729 | 8 |
| 53 | 077 | 383 | .1560 | 717 | 7 |
| 54 | 104 | 418 | .1543 | 704 | 6 |
| 55 | .42130 | .46454 | 2.1527 | .90692 | 5 |
| 56 | 156 | 489 | .1510 | 680 | 4 |
| 57 | 183 | 525 | .1494 | 668 | 3 |
| 58 | 209 | 560 | .1478 | 655 | 2 |
| 59 | 235 | 595 | .1461 | 643 | 1 |
| 60 | .42262 | .46631 | 2.1445 | .90631 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | |
|----|--------|--------|--------|--------|----|
| 0 | .42262 | .46631 | 2.1445 | .90631 | 60 |
| 1 | 288 | 666 | .1429 | 618 | 59 |
| 2 | 315 | 702 | .1413 | 606 | 58 |
| 3 | 341 | 737 | .1396 | 594 | 57 |
| 4 | 367 | 772 | .1380 | 582 | 56 |
| 5 | .42394 | .46808 | 2.1364 | .90569 | 55 |
| 6 | 420 | 843 | .1348 | 557 | 54 |
| 7 | 446 | 879 | .1332 | 545 | 53 |
| 8 | 473 | 914 | .1315 | 532 | 52 |
| 9 | 499 | 950 | .1299 | 520 | 51 |
| 10 | .42525 | .46985 | 2.1283 | .90507 | 50 |
| 11 | 552 | .47021 | .1267 | 495 | 49 |
| 12 | 578 | 056 | .1251 | 483 | 48 |
| 13 | 604 | 092 | .1235 | 470 | 47 |
| 14 | 631 | 128 | .1219 | 458 | 46 |
| 15 | .42657 | .47163 | 2.1203 | .90446 | 45 |
| 16 | 683 | 199 | .1187 | 433 | 44 |
| 17 | 709 | 234 | .1171 | 421 | 43 |
| 18 | 736 | 270 | .1155 | 408 | 42 |
| 19 | 762 | 305 | .1139 | 396 | 41 |
| 20 | .42788 | .47341 | 2.1123 | .90383 | 40 |
| 21 | 815 | 377 | .1107 | 371 | 39 |
| 22 | 841 | 412 | .1092 | 358 | 38 |
| 23 | 867 | 448 | .1076 | 346 | 37 |
| 24 | 894 | 483 | .1060 | 334 | 36 |
| 25 | .42920 | .47519 | 2.1044 | .90321 | 35 |
| 26 | 946 | 555 | .1028 | 309 | 34 |
| 27 | 972 | 590 | .1013 | 296 | 33 |
| 28 | .42999 | 626 | .0997 | 284 | 32 |
| 29 | .43025 | 662 | .0981 | 271 | 31 |
| 30 | .43051 | .47698 | 2.0965 | .90259 | 30 |
| 31 | 077 | 733 | .0950 | 246 | 29 |
| 32 | 104 | 769 | .0934 | 233 | 28 |
| 33 | 130 | 805 | .0918 | 221 | 27 |
| 34 | 156 | 840 | .0903 | 208 | 26 |
| 35 | .43182 | .47876 | 2.0887 | .90196 | 25 |
| 36 | 209 | 912 | .0872 | 183 | 24 |
| 37 | 235 | 948 | .0856 | 171 | 23 |
| 38 | 261 | .47984 | .0840 | 158 | 22 |
| 39 | 287 | .48019 | .0825 | 146 | 21 |
| 40 | .43313 | .48055 | 2.0809 | .90133 | 20 |
| 41 | 340 | 091 | .0794 | 120 | 19 |
| 42 | 366 | 127 | .0778 | 108 | 18 |
| 43 | 392 | 163 | .0763 | 095 | 17 |
| 44 | 418 | 198 | .0748 | 082 | 16 |
| 45 | .43445 | .48234 | 2.0732 | .90070 | 15 |
| 46 | 471 | 270 | .0717 | 057 | 14 |
| 47 | 497 | 306 | .0701 | 045 | 13 |
| 48 | 523 | 342 | .0686 | 032 | 12 |
| 49 | 549 | 378 | .0671 | 019 | 11 |
| 50 | .43575 | .48414 | 2.0655 | .90007 | 10 |
| 51 | 602 | 450 | .0640 | .89994 | 9 |
| 52 | 628 | 486 | .0625 | 981 | 8 |
| 53 | 654 | 521 | .0609 | 968 | 7 |
| 54 | 680 | 557 | .0594 | 956 | 6 |
| 55 | .43706 | .48593 | 2.0579 | .89943 | 5 |
| 56 | 733 | 629 | .0564 | 930 | 4 |
| 57 | 759 | 665 | .0549 | 918 | 3 |
| 58 | 785 | 701 | .0533 | 905 | 2 |
| 59 | 811 | 737 | .0518 | 892 | 1 |
| 60 | .43837 | .48773 | 2.0503 | .89879 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| / | Sin | Tan | Ctn | Cos | |
|----|--------|--------|--------|--------|----|
| 0 | .43837 | .48773 | 2.0503 | .89879 | 60 |
| 1 | 863 | 809 | .0488 | 867 | 59 |
| 2 | 889 | 845 | .0473 | 854 | 58 |
| 3 | 916 | 881 | .0458 | 841 | 57 |
| 4 | 942 | 917 | .0443 | 828 | 56 |
| 5 | .43968 | .48953 | 2.0428 | .89816 | 55 |
| 6 | .43994 | .48989 | .0413 | 803 | 54 |
| 7 | .44020 | .49026 | .0398 | 790 | 53 |
| 8 | 046 | 062 | .0383 | 777 | 52 |
| 9 | 072 | 098 | .0368 | 764 | 51 |
| 10 | .44098 | .49134 | 2.0353 | .89752 | 50 |
| 11 | 124 | 170 | .0338 | 739 | 49 |
| 12 | 151 | 206 | .0323 | 726 | 48 |
| 13 | 177 | 242 | .0308 | 713 | 47 |
| 14 | 203 | 278 | .0293 | 700 | 46 |
| 15 | .44229 | .49315 | 2.0278 | .89687 | 45 |
| 16 | 255 | 351 | .0263 | 674 | 44 |
| 17 | 281 | 387 | .0248 | 662 | 43 |
| 18 | 307 | 423 | .0233 | 649 | 42 |
| 19 | 333 | 459 | .0219 | 636 | 41 |
| 20 | .44359 | .49495 | 2.0204 | .89623 | 40 |
| 21 | 385 | 532 | .0189 | 610 | 39 |
| 22 | 411 | 568 | .0174 | 597 | 38 |
| 23 | 437 | 604 | .0160 | 584 | 37 |
| 24 | 464 | 640 | .0145 | 571 | 36 |
| 25 | .44490 | .49677 | 2.0130 | .89558 | 35 |
| 26 | 516 | 713 | .0115 | 545 | 34 |
| 27 | 542 | 749 | .0101 | 532 | 33 |
| 28 | 568 | 786 | .0086 | 519 | 32 |
| 29 | 594 | 822 | .0072 | 506 | 31 |
| 30 | .44620 | .49858 | 2.0057 | .89493 | 30 |
| 31 | 646 | 894 | .0042 | 480 | 29 |
| 32 | 672 | 931 | .0028 | 467 | 28 |
| 33 | 698 | .49967 | 2.0013 | 454 | 27 |
| 34 | 724 | .50004 | 1.9999 | 441 | 26 |
| 35 | .44750 | .50040 | 1.9984 | .89428 | 25 |
| 36 | 776 | 076 | .9970 | 415 | 24 |
| 37 | 802 | 113 | .9955 | 402 | 23 |
| 38 | 828 | 149 | .9941 | 389 | 22 |
| 39 | 854 | 185 | .9926 | 376 | 21 |
| 40 | .44880 | .50222 | 1.9912 | .89363 | 20 |
| 41 | 906 | 258 | .9897 | 350 | 19 |
| 42 | 932 | 295 | .9883 | 337 | 18 |
| 43 | 958 | 331 | .9868 | 324 | 17 |
| 44 | .44984 | 368 | .9854 | 311 | 16 |
| 45 | .45010 | .50404 | 1.9840 | .89298 | 15 |
| 46 | 036 | 441 | .9825 | 285 | 14 |
| 47 | 062 | 477 | .9811 | 272 | 13 |
| 48 | 088 | 514 | .9797 | 259 | 12 |
| 49 | 114 | 550 | .9782 | 245 | 11 |
| 50 | .45140 | .50587 | 1.9768 | .89232 | 10 |
| 51 | 166 | 623 | .9754 | 219 | 9 |
| 52 | 192 | 660 | .9740 | 206 | 8 |
| 53 | 218 | 696 | .9725 | 193 | 7 |
| 54 | 243 | 733 | .9711 | 180 | 6 |
| 55 | .45269 | .50769 | 1.9697 | .89167 | 5 |
| 56 | 295 | 806 | .9683 | 153 | 4 |
| 57 | 321 | 843 | .9669 | 140 | 3 |
| 58 | 347 | 879 | .9654 | 127 | 2 |
| 59 | 373 | 916 | .9640 | 114 | 1 |
| 60 | .45399 | .50953 | 1.9626 | .89101 | 0 |
| | Cos | Ctn | Tan | Sin | / |

63°

| / | Sin | Tan | Ctn | Cos | |
|----|--------|--------|--------|--------|----|
| 0 | .45399 | .50953 | 1.9626 | .89101 | 60 |
| 1 | 425 | .50989 | .9612 | 087 | 59 |
| 2 | 451 | .51026 | .9598 | 074 | 58 |
| 3 | 477 | 063 | .9584 | 061 | 57 |
| 4 | 503 | 099 | .9570 | 048 | 56 |
| 5 | .45529 | .51136 | 1.9556 | .89035 | 55 |
| 6 | 554 | 173 | .9542 | 021 | 54 |
| 7 | 580 | 209 | .9528 | .89008 | 53 |
| 8 | 606 | 246 | .9514 | .88995 | 52 |
| 9 | 632 | 283 | .9500 | 981 | 51 |
| 10 | .45658 | .51319 | 1.9486 | .88968 | 50 |
| 11 | 684 | 356 | .9472 | 955 | 49 |
| 12 | 710 | 393 | .9458 | 942 | 48 |
| 13 | 736 | 430 | .9444 | 928 | 47 |
| 14 | 762 | 467 | .9430 | 915 | 46 |
| 15 | .45787 | .51503 | 1.9416 | .88902 | 45 |
| 16 | 813 | 540 | .9402 | 888 | 44 |
| 17 | 839 | 577 | .9388 | 875 | 43 |
| 18 | 865 | 614 | .9375 | 862 | 42 |
| 19 | 891 | 651 | .9361 | 848 | 41 |
| 20 | .45917 | .51688 | 1.9347 | .88835 | 40 |
| 21 | 942 | 724 | .9333 | 822 | 39 |
| 22 | 968 | 761 | .9319 | 808 | 38 |
| 23 | .45994 | 798 | .9306 | 795 | 37 |
| 24 | .46020 | 835 | .9292 | 782 | 36 |
| 25 | .46046 | .51872 | 1.9278 | .88768 | 35 |
| 26 | 072 | 909 | .9265 | 755 | 34 |
| 27 | 097 | 946 | .9251 | 741 | 33 |
| 28 | 123 | .51983 | .9237 | 728 | 32 |
| 29 | 149 | .52020 | .9223 | 715 | 31 |
| 30 | .46175 | .52057 | 1.9210 | .88701 | 30 |
| 31 | 201 | 094 | .9196 | 688 | 29 |
| 32 | 226 | 131 | .9183 | 674 | 28 |
| 33 | 252 | 168 | .9169 | 661 | 27 |
| 34 | 278 | 205 | .9155 | 647 | 26 |
| 35 | .46304 | .52242 | 1.9142 | .88634 | 25 |
| 36 | 330 | 279 | .9128 | 620 | 24 |
| 37 | 355 | 316 | .9115 | 607 | 23 |
| 38 | 381 | 353 | .9101 | 593 | 22 |
| 39 | 407 | 390 | .9088 | 580 | 21 |
| 40 | .46433 | .52427 | 1.9074 | .88566 | 20 |
| 41 | 458 | 464 | .9061 | 553 | 19 |
| 42 | 484 | 501 | .9047 | 539 | 18 |
| 43 | 510 | 538 | .9034 | 526 | 17 |
| 44 | 536 | 575 | .9020 | 512 | 16 |
| 45 | .46561 | .52613 | 1.9007 | .88499 | 15 |
| 46 | 587 | 650 | .8993 | 485 | 14 |
| 47 | 613 | 687 | .8980 | 472 | 13 |
| 48 | 639 | 724 | .8967 | 458 | 12 |
| 49 | 664 | 761 | .8953 | 445 | 11 |
| 50 | .46690 | .52798 | 1.8940 | .88431 | 10 |
| 51 | 716 | 836 | .8927 | 417 | 9 |
| 52 | 742 | 873 | .8913 | 404 | 8 |
| 53 | 767 | 910 | .8900 | 390 | 7 |
| 54 | 793 | 947 | .8887 | 377 | 6 |
| 55 | .46819 | .52985 | 1.8873 | .88363 | 5 |
| 56 | 844 | .53022 | .8860 | 349 | 4 |
| 57 | 870 | 059 | .8847 | 336 | 3 |
| 58 | 896 | 096 | .8834 | 322 | 2 |
| 59 | 921 | 134 | .8820 | 308 | 1 |
| 60 | .46947 | .53171 | 1.8807 | .88295 | 0 |
| | Cos | Ctn | Tan | Sin | / |

62°

| <i>i</i> | Sin | Tan | Ctn | Cos | |
|----------|--------|--------|--------|--------|----------|
| 0 | .46947 | .53171 | 1.8807 | .88295 | 60 |
| 1 | .973 | .208 | .8794 | .281 | 59 |
| 2 | .46999 | .246 | .8781 | .267 | 58 |
| 3 | .47024 | .283 | .8768 | .254 | 57 |
| 4 | .050 | .320 | .8755 | .240 | 56 |
| 5 | .47076 | .53358 | 1.8741 | .88226 | 55 |
| 6 | .101 | .395 | .8728 | .213 | 54 |
| 7 | .127 | .432 | .8715 | .199 | 53 |
| 8 | .153 | .470 | .8702 | .185 | 52 |
| 9 | .178 | .507 | .8689 | .172 | 51 |
| 10 | .47204 | .53545 | 1.8676 | .88158 | 50 |
| 11 | .229 | .582 | .8663 | .144 | 49 |
| 12 | .235 | .620 | .8650 | .130 | 48 |
| 13 | .281 | .657 | .8637 | .117 | 47 |
| 14 | .306 | .694 | .8624 | .103 | 46 |
| 15 | .47332 | .53732 | 1.8611 | .88089 | 45 |
| 16 | .358 | .769 | .8598 | .075 | 44 |
| 17 | .383 | .807 | .8585 | .062 | 43 |
| 18 | .409 | .844 | .8572 | .048 | 42 |
| 19 | .434 | .882 | .8559 | .034 | 41 |
| 20 | .47460 | .53920 | 1.8546 | .88020 | 40 |
| 21 | .486 | .957 | .8533 | .88006 | 39 |
| 22 | .511 | .53995 | .8520 | .87993 | 38 |
| 23 | .537 | .54032 | .8507 | .87979 | 37 |
| 24 | .562 | .070 | .8495 | .965 | 36 |
| 25 | .47588 | .54107 | 1.8482 | .87951 | 35 |
| 26 | .614 | .145 | .8469 | .937 | 34 |
| 27 | .639 | .183 | .8456 | .923 | 33 |
| 28 | .665 | .220 | .8443 | .909 | 32 |
| 29 | .690 | .258 | .8430 | .896 | 31 |
| 30 | .47716 | .54296 | 1.8418 | .87882 | 30 |
| 31 | .741 | .333 | .8405 | .868 | 29 |
| 32 | .767 | .371 | .8392 | .854 | 28 |
| 33 | .793 | .409 | .8379 | .840 | 27 |
| 34 | .818 | .446 | .8367 | .826 | 26 |
| 35 | .47844 | .54484 | 1.8354 | .87812 | 25 |
| 36 | .869 | .522 | .8341 | .798 | 24 |
| 37 | .895 | .560 | .8329 | .784 | 23 |
| 38 | .920 | .597 | .8316 | .770 | 22 |
| 39 | .946 | .635 | .8303 | .756 | 21 |
| 40 | .47971 | .54673 | 1.8291 | .87743 | 20 |
| 41 | .47997 | .711 | .8278 | .729 | 19 |
| 42 | .48022 | .748 | .8265 | .715 | 18 |
| 43 | .048 | .786 | .8253 | .701 | 17 |
| 44 | .073 | .824 | .8240 | .687 | 16 |
| 45 | .48099 | .54862 | 1.8228 | .87673 | 15 |
| 46 | .124 | .900 | .8215 | .659 | 14 |
| 47 | .150 | .938 | .8202 | .645 | 13 |
| 48 | .175 | .54975 | .8190 | .631 | 12 |
| 49 | .201 | .55013 | .8177 | .617 | 11 |
| 50 | .48226 | .55051 | 1.8165 | .87603 | 10 |
| 51 | .252 | .089 | .8152 | .589 | 9 |
| 52 | .277 | .127 | .8140 | .575 | 8 |
| 53 | .303 | .165 | .8127 | .561 | 7 |
| 54 | .328 | .203 | .8115 | .546 | 6 |
| 55 | .48354 | .55241 | 1.8103 | .87532 | 5 |
| 56 | .379 | .279 | .8090 | .518 | 4 |
| 57 | .405 | .317 | .8078 | .504 | 3 |
| 58 | .430 | .355 | .8065 | .490 | 2 |
| 59 | .456 | .393 | .8053 | .476 | 1 |
| 60 | .48481 | .55431 | 1.8040 | .87462 | 0 |
| | Cos | Ctn | Tan | Sin | <i>i</i> |

| <i>i</i> | Sin | Tan | Ctn | Cos | |
|----------|--------|--------|--------|--------|----------|
| 0 | .48481 | .55431 | 1.8040 | .87462 | 60 |
| 1 | .506 | .469 | .8028 | .448 | 59 |
| 2 | .532 | .507 | .8016 | .434 | 58 |
| 3 | .557 | .545 | .8003 | .420 | 57 |
| 4 | .583 | .583 | .7991 | .406 | 56 |
| 5 | .48608 | .55621 | 1.7979 | .87391 | 55 |
| 6 | .634 | .659 | .7966 | .377 | 54 |
| 7 | .659 | .697 | .7954 | .363 | 53 |
| 8 | .684 | .736 | .7942 | .349 | 52 |
| 9 | .710 | .774 | .7930 | .335 | 51 |
| 10 | .48735 | .55812 | 1.7917 | .87321 | 50 |
| 11 | .761 | .850 | .7905 | .306 | 49 |
| 12 | .786 | .888 | .7893 | .292 | 48 |
| 13 | .811 | .926 | .7881 | .278 | 47 |
| 14 | .837 | .55964 | .7868 | .264 | 46 |
| 15 | .48862 | .56003 | 1.7856 | .87250 | 45 |
| 16 | .888 | .041 | .7844 | .235 | 44 |
| 17 | .913 | .079 | .7832 | .221 | 43 |
| 18 | .938 | .117 | .7820 | .207 | 42 |
| 19 | .964 | .156 | .7808 | .193 | 41 |
| 20 | .48989 | .56194 | 1.7796 | .87178 | 40 |
| 21 | .49014 | .232 | .7783 | .164 | 39 |
| 22 | .040 | .270 | .7771 | .150 | 38 |
| 23 | .065 | .309 | .7759 | .136 | 37 |
| 24 | .090 | .347 | .7747 | .121 | 36 |
| 25 | .49116 | .56385 | 1.7735 | .87107 | 35 |
| 26 | .141 | .424 | .7723 | .093 | 34 |
| 27 | .166 | .462 | .7711 | .079 | 33 |
| 28 | .192 | .501 | .7699 | .064 | 32 |
| 29 | .217 | .539 | .7687 | .050 | 31 |
| 30 | .49242 | .56577 | 1.7675 | .87036 | 30 |
| 31 | .268 | .616 | .7663 | .021 | 29 |
| 32 | .293 | .654 | .7651 | .87007 | 28 |
| 33 | .318 | .693 | .7639 | .86963 | 27 |
| 34 | .344 | .731 | .7627 | .978 | 26 |
| 35 | .49369 | .56769 | 1.7615 | .86964 | 25 |
| 36 | .394 | .808 | .7603 | .949 | 24 |
| 37 | .419 | .846 | .7591 | .935 | 23 |
| 38 | .445 | .885 | .7579 | .921 | 22 |
| 39 | .470 | .923 | .7567 | .906 | 21 |
| 40 | .49495 | .56962 | 1.7556 | .86892 | 20 |
| 41 | .521 | .57000 | .7544 | .878 | 19 |
| 42 | .546 | .039 | .7532 | .863 | 18 |
| 43 | .571 | .078 | .7520 | .849 | 17 |
| 44 | .596 | .116 | .7508 | .834 | 16 |
| 45 | .49622 | .57155 | 1.7496 | .86820 | 15 |
| 46 | .647 | .193 | .7485 | .805 | 14 |
| 47 | .672 | .232 | .7473 | .791 | 13 |
| 48 | .697 | .271 | .7461 | .777 | 12 |
| 49 | .723 | .309 | .7449 | .762 | 11 |
| 50 | .49748 | .57348 | 1.7437 | .86748 | 10 |
| 51 | .773 | .386 | .7426 | .733 | 9 |
| 52 | .798 | .425 | .7414 | .719 | 8 |
| 53 | .824 | .464 | .7402 | .704 | 7 |
| 54 | .849 | .503 | .7391 | .690 | 6 |
| 55 | .49874 | .57541 | 1.7379 | .86675 | 5 |
| 56 | .899 | .580 | .7367 | .661 | 4 |
| 57 | .924 | .619 | .7355 | .646 | 3 |
| 58 | .950 | .657 | .7344 | .632 | 2 |
| 59 | .49975 | .696 | .7332 | .617 | 1 |
| 60 | .50000 | .57735 | 1.7321 | .86603 | 0 |
| | Cos | Ctn | Tan | Sin | <i>i</i> |

| ' | Sin | Tan | Ctn | Cos | ' |
|----|--------|--------|--------|--------|----|
| 0 | .50000 | .57735 | 1.7321 | .86603 | 60 |
| 1 | .5025 | .774 | .7309 | .588 | 59 |
| 2 | .5050 | .813 | .7297 | .573 | 58 |
| 3 | .5076 | .851 | .7286 | .559 | 57 |
| 4 | .5101 | .890 | .7274 | .544 | 56 |
| 5 | .5126 | .57929 | 1.7262 | .86530 | 55 |
| 6 | .5151 | .57968 | .7251 | .515 | 54 |
| 7 | .5176 | .58007 | .7239 | .501 | 53 |
| 8 | .5201 | .046 | .7228 | .486 | 52 |
| 9 | .5227 | .085 | .7216 | .471 | 51 |
| 10 | .5252 | .58124 | 1.7205 | .86457 | 50 |
| 11 | .5277 | .162 | .7193 | .442 | 49 |
| 12 | .5302 | .201 | .7182 | .427 | 48 |
| 13 | .5327 | .240 | .7170 | .413 | 47 |
| 14 | .5352 | .279 | .7159 | .398 | 46 |
| 15 | .5377 | .58318 | 1.7147 | .86384 | 45 |
| 16 | .5403 | .357 | .7136 | .369 | 44 |
| 17 | .5428 | .396 | .7124 | .354 | 43 |
| 18 | .5453 | .435 | .7113 | .340 | 42 |
| 19 | .5478 | .474 | .7102 | .325 | 41 |
| 20 | .5503 | .58513 | 1.7090 | .86310 | 40 |
| 21 | .5528 | .552 | .7079 | .295 | 39 |
| 22 | .5553 | .591 | .7067 | .281 | 38 |
| 23 | .5578 | .631 | .7056 | .266 | 37 |
| 24 | .5603 | .670 | .7045 | .251 | 36 |
| 25 | .5628 | .58709 | 1.7033 | .86237 | 35 |
| 26 | .5654 | .748 | .7022 | .222 | 34 |
| 27 | .5679 | .787 | .7011 | .207 | 33 |
| 28 | .5704 | .826 | .6999 | .192 | 32 |
| 29 | .5729 | .865 | .6988 | .178 | 31 |
| 30 | .5754 | .58905 | 1.6977 | .86163 | 30 |
| 31 | .5779 | .944 | .6965 | .148 | 29 |
| 32 | .5804 | .58983 | .6954 | .133 | 28 |
| 33 | .5829 | .59022 | .6943 | .119 | 27 |
| 34 | .5854 | .061 | .6932 | .104 | 26 |
| 35 | .5879 | .59101 | 1.6920 | .86089 | 25 |
| 36 | .5904 | .140 | .6909 | .074 | 24 |
| 37 | .5929 | .179 | .6898 | .059 | 23 |
| 38 | .5954 | .218 | .6887 | .045 | 22 |
| 39 | .5979 | .258 | .6875 | .030 | 21 |
| 40 | .51004 | .59297 | 1.6864 | .86015 | 20 |
| 41 | .029 | .336 | .6853 | .86000 | 19 |
| 42 | .054 | .376 | .6842 | .85985 | 18 |
| 43 | .079 | .415 | .6831 | .970 | 17 |
| 44 | .104 | .454 | .6820 | .956 | 16 |
| 45 | .51129 | .59494 | 1.6808 | .85941 | 15 |
| 46 | .154 | .533 | .6797 | .926 | 14 |
| 47 | .179 | .573 | .6786 | .911 | 13 |
| 48 | .204 | .612 | .6775 | .896 | 12 |
| 49 | .229 | .651 | .6764 | .881 | 11 |
| 50 | .51254 | .59691 | 1.6753 | .85866 | 10 |
| 51 | .279 | .730 | .6742 | .851 | 9 |
| 52 | .304 | .770 | .6731 | .836 | 8 |
| 53 | .329 | .809 | .6720 | .821 | 7 |
| 54 | .354 | .849 | .6709 | .806 | 6 |
| 55 | .51379 | .59888 | 1.6698 | .85792 | 5 |
| 56 | .404 | .928 | .6687 | .777 | 4 |
| 57 | .429 | .59967 | .6676 | .762 | 3 |
| 58 | .454 | .60007 | .6665 | .747 | 2 |
| 59 | .479 | .046 | .6654 | .732 | 1 |
| 60 | .51504 | .60086 | 1.6643 | .85717 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | ' |
|----|--------|--------|--------|--------|----|
| 0 | .51504 | .60086 | 1.6643 | .85717 | 60 |
| 1 | .51529 | .126 | .6632 | .702 | 59 |
| 2 | .51554 | .165 | .6621 | .687 | 58 |
| 3 | .51579 | .205 | .6610 | .672 | 57 |
| 4 | .51604 | .245 | .6599 | .657 | 56 |
| 5 | .51628 | .60284 | 1.6588 | .85642 | 55 |
| 6 | .51653 | .324 | .6577 | .627 | 54 |
| 7 | .51678 | .364 | .6566 | .612 | 53 |
| 8 | .51703 | .403 | .6555 | .597 | 52 |
| 9 | .51728 | .443 | .6545 | .582 | 51 |
| 10 | .51753 | .60483 | 1.6534 | .85567 | 50 |
| 11 | .51778 | .522 | .6523 | .551 | 49 |
| 12 | .51803 | .562 | .6512 | .536 | 48 |
| 13 | .51828 | .602 | .6501 | .521 | 47 |
| 14 | .51852 | .642 | .6490 | .506 | 46 |
| 15 | .51877 | .60681 | 1.6479 | .85491 | 45 |
| 16 | .51902 | .721 | .6469 | .476 | 44 |
| 17 | .51927 | .761 | .6458 | .461 | 43 |
| 18 | .51952 | .801 | .6447 | .446 | 42 |
| 19 | .51977 | .841 | .6436 | .431 | 41 |
| 20 | .52002 | .60881 | 1.6426 | .85416 | 40 |
| 21 | .52026 | .921 | .6415 | .401 | 39 |
| 22 | .52051 | .60960 | .6404 | .385 | 38 |
| 23 | .52076 | .61000 | .6393 | .370 | 37 |
| 24 | .52101 | .040 | .6383 | .355 | 36 |
| 25 | .52126 | .61080 | 1.6372 | .85340 | 35 |
| 26 | .52151 | .120 | .6361 | .325 | 34 |
| 27 | .52175 | .160 | .6351 | .310 | 33 |
| 28 | .52200 | .200 | .6340 | .294 | 32 |
| 29 | .52225 | .240 | .6329 | .279 | 31 |
| 30 | .52250 | .61280 | 1.6319 | .85264 | 30 |
| 31 | .52275 | .320 | .6308 | .249 | 29 |
| 32 | .52299 | .360 | .6297 | .234 | 28 |
| 33 | .52324 | .400 | .6287 | .218 | 27 |
| 34 | .52349 | .440 | .6276 | .203 | 26 |
| 35 | .52374 | .61480 | 1.6265 | .85188 | 25 |
| 36 | .52399 | .520 | .6255 | .173 | 24 |
| 37 | .52423 | .561 | .6244 | .157 | 23 |
| 38 | .52448 | .601 | .6234 | .142 | 22 |
| 39 | .52473 | .641 | .6223 | .127 | 21 |
| 40 | .52498 | .61681 | 1.6212 | .85112 | 20 |
| 41 | .52522 | .721 | .6202 | .096 | 19 |
| 42 | .52547 | .761 | .6191 | .081 | 18 |
| 43 | .52572 | .801 | .6181 | .066 | 17 |
| 44 | .52597 | .842 | .6170 | .051 | 16 |
| 45 | .52621 | .61882 | 1.6160 | .85035 | 15 |
| 46 | .52646 | .922 | .6149 | .020 | 14 |
| 47 | .52671 | .61962 | .6139 | .85005 | 13 |
| 48 | .52696 | .62003 | .6128 | .84989 | 12 |
| 49 | .52720 | .043 | .6118 | .974 | 11 |
| 50 | .52745 | .62083 | 1.6107 | .84959 | 10 |
| 51 | .52770 | .124 | .6097 | .943 | 9 |
| 52 | .52794 | .164 | .6087 | .928 | 8 |
| 53 | .52819 | .204 | .6076 | .913 | 7 |
| 54 | .52844 | .245 | .6066 | .897 | 6 |
| 55 | .52869 | .62285 | 1.6055 | .84882 | 5 |
| 56 | .52893 | .325 | .6045 | .866 | 4 |
| 57 | .52918 | .366 | .6034 | .851 | 3 |
| 58 | .52943 | .406 | .6024 | .836 | 2 |
| 59 | .52967 | .446 | .6014 | .820 | 1 |
| 60 | .52992 | .62487 | 1.6003 | .84805 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| / | Sin | Tan | Ctn | Cos | / |
|----|--------|--------|--------|--------|----|
| 0 | .52992 | .62487 | 1.6003 | .84805 | 60 |
| 1 | .53017 | .62527 | .5993 | .84805 | 59 |
| 2 | .53041 | .62568 | .5983 | .84805 | 58 |
| 3 | .53066 | .62608 | .5972 | .84805 | 57 |
| 4 | .53091 | .62649 | .5962 | .84805 | 56 |
| 5 | .53115 | .62689 | 1.5952 | .84728 | 55 |
| 6 | .53140 | .62730 | .5941 | .84728 | 54 |
| 7 | .53164 | .62770 | .5931 | .84728 | 53 |
| 8 | .53189 | .62811 | .5921 | .84728 | 52 |
| 9 | .53214 | .62852 | .5911 | .84728 | 51 |
| 10 | .53238 | .62892 | 1.5900 | .84650 | 50 |
| 11 | .53263 | .62933 | .5890 | .84650 | 49 |
| 12 | .53288 | .62973 | .5880 | .84650 | 48 |
| 13 | .53312 | .63014 | .5869 | .84650 | 47 |
| 14 | .53337 | .63055 | .5859 | .84650 | 46 |
| 15 | .53361 | .63095 | 1.5849 | .84573 | 45 |
| 16 | .53386 | .63136 | .5839 | .84573 | 44 |
| 17 | .53411 | .63177 | .5829 | .84573 | 43 |
| 18 | .53435 | .63217 | .5818 | .84573 | 42 |
| 19 | .53460 | .63258 | .5808 | .84573 | 41 |
| 20 | .53484 | .63299 | 1.5798 | .84495 | 40 |
| 21 | .53509 | .63340 | .5788 | .84495 | 39 |
| 22 | .53534 | .63380 | .5778 | .84495 | 38 |
| 23 | .53558 | .63421 | .5768 | .84495 | 37 |
| 24 | .53583 | .63462 | .5757 | .84495 | 36 |
| 25 | .53607 | .63503 | 1.5747 | .84417 | 35 |
| 26 | .53632 | .63544 | .5737 | .84417 | 34 |
| 27 | .53656 | .63584 | .5727 | .84417 | 33 |
| 28 | .53681 | .63625 | .5717 | .84417 | 32 |
| 29 | .53705 | .63666 | .5707 | .84417 | 31 |
| 30 | .53730 | .63707 | 1.5697 | .84339 | 30 |
| 31 | .53754 | .63748 | .5687 | .84339 | 29 |
| 32 | .53779 | .63789 | .5677 | .84339 | 28 |
| 33 | .53804 | .63830 | .5667 | .84339 | 27 |
| 34 | .53828 | .63871 | .5657 | .84339 | 26 |
| 35 | .53853 | .63912 | 1.5647 | .84261 | 25 |
| 36 | .53877 | .63953 | .5637 | .84261 | 24 |
| 37 | .53902 | .63994 | .5627 | .84261 | 23 |
| 38 | .53926 | .64035 | .5617 | .84261 | 22 |
| 39 | .53951 | .64076 | .5607 | .84261 | 21 |
| 40 | .53975 | .64117 | 1.5597 | .84182 | 20 |
| 41 | .54000 | .64158 | .5587 | .84182 | 19 |
| 42 | .54024 | .64199 | .5577 | .84182 | 18 |
| 43 | .54049 | .64240 | .5567 | .84182 | 17 |
| 44 | .54073 | .64281 | .5557 | .84182 | 16 |
| 45 | .54097 | .64322 | 1.5547 | .84104 | 15 |
| 46 | .54122 | .64363 | .5537 | .84104 | 14 |
| 47 | .54146 | .64404 | .5527 | .84104 | 13 |
| 48 | .54171 | .64445 | .5517 | .84104 | 12 |
| 49 | .54195 | .64487 | .5507 | .84104 | 11 |
| 50 | .54220 | .64528 | 1.5497 | .84025 | 10 |
| 51 | .54244 | .64569 | .5487 | .84025 | 9 |
| 52 | .54269 | .64610 | .5477 | .84025 | 8 |
| 53 | .54293 | .64652 | .5468 | .84025 | 7 |
| 54 | .54317 | .64693 | .5458 | .84025 | 6 |
| 55 | .54342 | .64734 | 1.5448 | .83946 | 5 |
| 56 | .54366 | .64775 | .5438 | .83946 | 4 |
| 57 | .54391 | .64817 | .5428 | .83946 | 3 |
| 58 | .54415 | .64858 | .5418 | .83946 | 2 |
| 59 | .54440 | .64899 | .5408 | .83946 | 1 |
| 60 | .54464 | .64941 | 1.5399 | .83867 | 0 |
| | Cos | Ctn | Tan | Sin | / |

| / | Sin | Tan | Ctn | Cos | / |
|----|--------|--------|--------|--------|----|
| 0 | .54464 | .64941 | 1.5399 | .83867 | 60 |
| 1 | .54488 | .64982 | .5389 | .83867 | 59 |
| 2 | .54513 | .65024 | .5379 | .83867 | 58 |
| 3 | .54537 | .65065 | .5369 | .83867 | 57 |
| 4 | .54561 | .65106 | .5359 | .83867 | 56 |
| 5 | .54586 | .65148 | 1.5350 | .83788 | 55 |
| 6 | .54610 | .65189 | .5340 | .83788 | 54 |
| 7 | .54635 | .65231 | .5330 | .83788 | 53 |
| 8 | .54659 | .65272 | .5320 | .83788 | 52 |
| 9 | .54683 | .65314 | .5311 | .83788 | 51 |
| 10 | .54708 | .65355 | 1.5301 | .83708 | 50 |
| 11 | .54732 | .65397 | .5291 | .83708 | 49 |
| 12 | .54756 | .65438 | .5282 | .83708 | 48 |
| 13 | .54781 | .65480 | .5272 | .83708 | 47 |
| 14 | .54805 | .65521 | .5262 | .83708 | 46 |
| 15 | .54829 | .65563 | 1.5253 | .83629 | 45 |
| 16 | .54854 | .65604 | .5243 | .83629 | 44 |
| 17 | .54878 | .65646 | .5233 | .83629 | 43 |
| 18 | .54902 | .65688 | .5224 | .83629 | 42 |
| 19 | .54927 | .65729 | .5214 | .83629 | 41 |
| 20 | .54951 | .65771 | 1.5204 | .83549 | 40 |
| 21 | .54975 | .65813 | .5195 | .83549 | 39 |
| 22 | .54999 | .65854 | .5185 | .83549 | 38 |
| 23 | .55024 | .65896 | .5175 | .83549 | 37 |
| 24 | .55048 | .65938 | .5166 | .83549 | 36 |
| 25 | .55072 | .65980 | 1.5156 | .83469 | 35 |
| 26 | .55097 | .66021 | .5147 | .83469 | 34 |
| 27 | .55121 | .66063 | .5137 | .83469 | 33 |
| 28 | .55145 | .66105 | .5127 | .83469 | 32 |
| 29 | .55169 | .66147 | .5118 | .83469 | 31 |
| 30 | .55194 | .66189 | 1.5108 | .83389 | 30 |
| 31 | .55218 | .66230 | .5099 | .83389 | 29 |
| 32 | .55242 | .66272 | .5089 | .83389 | 28 |
| 33 | .55266 | .66314 | .5080 | .83389 | 27 |
| 34 | .55291 | .66356 | .5070 | .83389 | 26 |
| 35 | .55315 | .66398 | 1.5061 | .83308 | 25 |
| 36 | .55339 | .66440 | .5051 | .83308 | 24 |
| 37 | .55363 | .66482 | .5042 | .83308 | 23 |
| 38 | .55388 | .66524 | .5032 | .83308 | 22 |
| 39 | .55412 | .66566 | .5023 | .83308 | 21 |
| 40 | .55436 | .66608 | 1.5013 | .83228 | 20 |
| 41 | .55460 | .66650 | .5004 | .83228 | 19 |
| 42 | .55484 | .66692 | .4994 | .83228 | 18 |
| 43 | .55509 | .66734 | .4985 | .83228 | 17 |
| 44 | .55533 | .66776 | .4975 | .83228 | 16 |
| 45 | .55557 | .66818 | 1.4966 | .83147 | 15 |
| 46 | .55581 | .66860 | .4957 | .83147 | 14 |
| 47 | .55605 | .66902 | .4947 | .83147 | 13 |
| 48 | .55630 | .66944 | .4938 | .83147 | 12 |
| 49 | .55654 | .66986 | .4928 | .83147 | 11 |
| 50 | .55678 | .67028 | 1.4919 | .83066 | 10 |
| 51 | .55702 | .67071 | .4910 | .83066 | 9 |
| 52 | .55726 | .67113 | .4900 | .83066 | 8 |
| 53 | .55750 | .67155 | .4891 | .83066 | 7 |
| 54 | .55775 | .67197 | .4882 | .83066 | 6 |
| 55 | .55799 | .67239 | 1.4872 | .82985 | 5 |
| 56 | .55823 | .67282 | .4863 | .82985 | 4 |
| 57 | .55847 | .67324 | .4854 | .82985 | 3 |
| 58 | .55871 | .67366 | .4844 | .82985 | 2 |
| 59 | .55895 | .67409 | .4835 | .82985 | 1 |
| 60 | .55919 | .67451 | 1.4826 | .82904 | 0 |
| | Cos | Ctn | Tan | Sin | / |

| / | Sin | Tan | Ctn | Cos | |
|-----|--------|--------|--------|--------|-----------|
| 0 | .55919 | .67451 | 1.4826 | .82904 | 60 |
| 1 | .943 | 493 | .4816 | 887 | 59 |
| 2 | .968 | 536 | .4807 | 871 | 58 |
| 3 | .55992 | 578 | .4798 | 855 | 57 |
| 4 | .56016 | 620 | .4788 | 839 | 56 |
| 5 | .56040 | .67663 | 1.4779 | .82822 | 55 |
| 6 | .064 | 705 | .4770 | 806 | 54 |
| 7 | .088 | 748 | .4761 | 790 | 53 |
| 8 | .112 | 790 | .4751 | 773 | 52 |
| 9 | .136 | 832 | .4742 | 757 | 51 |
| 10 | .56160 | .67875 | 1.4733 | .82741 | 50 |
| 11 | .184 | 917 | .4724 | 724 | 49 |
| 12 | .208 | .67960 | .4715 | 708 | 48 |
| 13 | .232 | .68002 | .4705 | 692 | 47 |
| 14 | .256 | .045 | .4696 | 675 | 46 |
| 15 | .56280 | .68088 | 1.4687 | .82659 | 45 |
| 16 | .305 | 130 | .4678 | 643 | 44 |
| 17 | .329 | 173 | .4669 | 626 | 43 |
| 18 | .353 | .215 | .4659 | 610 | 42 |
| 19 | .377 | .258 | .4650 | 593 | 41 |
| 20 | .56401 | .68301 | 1.4641 | .82577 | 40 |
| 21 | .425 | .343 | .4632 | 561 | 39 |
| 22 | .449 | .386 | .4623 | 544 | 38 |
| 23 | .473 | .429 | .4614 | 528 | 37 |
| 24 | .497 | .471 | .4605 | 511 | 36 |
| 25 | .56521 | .68514 | 1.4596 | .82495 | 35 |
| 26 | .545 | .557 | .4586 | 478 | 34 |
| 27 | .569 | .600 | .4577 | 462 | 33 |
| 28 | .593 | .642 | .4568 | 446 | 32 |
| 29 | .617 | .685 | .4559 | 429 | 31 |
| 30 | .56641 | .68728 | 1.4550 | .82413 | 30 |
| 31 | .665 | .771 | .4541 | 396 | 29 |
| 32 | .689 | .814 | .4532 | 380 | 28 |
| 33 | .713 | .857 | .4523 | 363 | 27 |
| 34 | .736 | .900 | .4514 | 347 | 26 |
| 35 | .56760 | .68942 | 1.4505 | .82330 | 25 |
| 36 | .784 | .68985 | .4496 | 314 | 24 |
| 37 | .808 | .69028 | .4487 | 297 | 23 |
| 38 | .832 | .071 | .4478 | 281 | 22 |
| 39 | .856 | .114 | .4469 | 264 | 21 |
| 40 | .56880 | .69157 | 1.4460 | .82248 | 20 |
| 41 | .904 | .200 | .4451 | 231 | 19 |
| 42 | .928 | .243 | .4442 | 214 | 18 |
| 43 | .952 | .286 | .4433 | 198 | 17 |
| 44 | .56976 | .329 | .4424 | 181 | 16 |
| 45 | .57000 | .69372 | 1.4415 | .82165 | 15 |
| 46 | .024 | .416 | .4406 | 148 | 14 |
| 47 | .047 | .459 | .4397 | 132 | 13 |
| 48 | .071 | .502 | .4388 | 115 | 12 |
| 49 | .095 | .545 | .4379 | 098 | 11 |
| 50 | .57119 | .69588 | 1.4370 | .82082 | 10 |
| 51 | .143 | .631 | .4361 | 065 | 9 |
| 52 | .167 | .675 | .4352 | 048 | 8 |
| 53 | .191 | .718 | .4344 | 032 | 7 |
| 54 | .215 | .761 | .4335 | .82015 | 6 |
| 55 | .57238 | .69804 | 1.4326 | .81999 | 5 |
| 56 | .262 | .847 | .4317 | 982 | 4 |
| 57 | .286 | .891 | .4308 | 965 | 3 |
| 58 | .310 | .934 | .4299 | 949 | 2 |
| 59 | .334 | .69977 | .4290 | 932 | 1 |
| 60 | .57358 | .70021 | 1.4281 | .81915 | 0 |
| Cos | Ctn | Tan | Sin | / | |

55°

| / | Sin | Tan | Ctn | Cos | |
|-----|--------|--------|--------|--------|-----------|
| 0 | .57358 | .70021 | 1.4281 | .81915 | 60 |
| 1 | .381 | .064 | .4273 | 899 | 59 |
| 2 | .405 | .107 | .4264 | 882 | 58 |
| 3 | .429 | .151 | .4255 | 865 | 57 |
| 4 | .453 | .194 | .4246 | 848 | 56 |
| 5 | .57477 | .70238 | 1.4237 | .81832 | 55 |
| 6 | .501 | .281 | .4229 | 815 | 54 |
| 7 | .524 | .325 | .4220 | 798 | 53 |
| 8 | .548 | .368 | .4211 | 782 | 52 |
| 9 | .572 | .412 | .4202 | 765 | 51 |
| 10 | .57596 | .70455 | 1.4193 | .81748 | 50 |
| 11 | .619 | .499 | .4185 | 731 | 49 |
| 12 | .643 | .542 | .4176 | 714 | 48 |
| 13 | .667 | .586 | .4167 | 698 | 47 |
| 14 | .691 | .629 | .4158 | 681 | 46 |
| 15 | .57715 | .70673 | 1.4150 | .81664 | 45 |
| 16 | .738 | .717 | .4141 | 647 | 44 |
| 17 | .762 | .760 | .4132 | 631 | 43 |
| 18 | .786 | .804 | .4124 | 614 | 42 |
| 19 | .810 | .848 | .4115 | 597 | 41 |
| 20 | .57833 | .70891 | 1.4106 | .81580 | 40 |
| 21 | .857 | .935 | .4097 | 563 | 39 |
| 22 | .881 | .70979 | .4089 | 546 | 38 |
| 23 | .904 | .71023 | .4080 | 530 | 37 |
| 24 | .928 | .066 | .4071 | 513 | 36 |
| 25 | .57952 | .71110 | 1.4063 | .81496 | 35 |
| 26 | .976 | .154 | .4054 | 479 | 34 |
| 27 | .57999 | .198 | .4045 | 462 | 33 |
| 28 | .58023 | .242 | .4037 | 445 | 32 |
| 29 | .047 | .285 | .4028 | 428 | 31 |
| 30 | .58070 | .71329 | 1.4019 | .81412 | 30 |
| 31 | .094 | .373 | .4011 | 395 | 29 |
| 32 | .118 | .417 | .4002 | 378 | 28 |
| 33 | .141 | .461 | .3994 | 361 | 27 |
| 34 | .165 | .505 | .3985 | 344 | 26 |
| 35 | .58189 | .71549 | 1.3976 | .81327 | 25 |
| 36 | .212 | .593 | .3968 | 310 | 24 |
| 37 | .236 | .637 | .3959 | 293 | 23 |
| 38 | .260 | .681 | .3951 | 276 | 22 |
| 39 | .283 | .725 | .3942 | 259 | 21 |
| 40 | .58307 | .71769 | 1.3934 | .81242 | 20 |
| 41 | .330 | .813 | .3925 | 225 | 19 |
| 42 | .354 | .857 | .3916 | 208 | 18 |
| 43 | .378 | .901 | .3908 | 191 | 17 |
| 44 | .401 | .946 | .3899 | 174 | 16 |
| 45 | .58425 | .71990 | 1.3891 | .81157 | 15 |
| 46 | .449 | .72034 | .3882 | 140 | 14 |
| 47 | .472 | .078 | .3874 | 123 | 13 |
| 48 | .496 | .122 | .3865 | 106 | 12 |
| 49 | .519 | .167 | .3857 | 089 | 11 |
| 50 | .58543 | .72211 | 1.3848 | .81072 | 10 |
| 51 | .567 | .255 | .3840 | 055 | 9 |
| 52 | .590 | .299 | .3831 | 038 | 8 |
| 53 | .614 | .344 | .3823 | 021 | 7 |
| 54 | .637 | .388 | .3814 | .81004 | 6 |
| 55 | .58661 | .72432 | 1.3806 | .80987 | 5 |
| 56 | .684 | .477 | .3798 | 970 | 4 |
| 57 | .708 | .521 | .3789 | 953 | 3 |
| 58 | .731 | .565 | .3781 | 936 | 2 |
| 59 | .755 | .610 | .3772 | 919 | 1 |
| 60 | .58779 | .72654 | 1.3764 | .80902 | 0 |
| Cos | Ctn | Tan | Sin | / | |

54°

| / | Sin | Tan | Ctn | Cos | |
|----|--------|--------|--------|--------|----|
| 0 | .58779 | .72654 | 1.3764 | .80902 | 60 |
| 1 | 802 | 699 | .3755 | 885 | 59 |
| 2 | 826 | 743 | .3747 | 867 | 58 |
| 3 | 849 | 788 | .3739 | 850 | 57 |
| 4 | 873 | 832 | .3730 | 833 | 56 |
| 5 | .58896 | .72877 | 1.3722 | .80816 | 55 |
| 6 | 920 | 921 | .3713 | 799 | 54 |
| 7 | 943 | .72966 | .3705 | 782 | 53 |
| 8 | 967 | .73010 | .3697 | 765 | 52 |
| 9 | .58990 | 055 | .3688 | 748 | 51 |
| 10 | .59014 | .73100 | 1.3680 | .80730 | 50 |
| 11 | 037 | 144 | .3672 | 713 | 49 |
| 12 | 061 | 189 | .3663 | 696 | 48 |
| 13 | 084 | 234 | .3655 | 679 | 47 |
| 14 | 108 | 278 | .3647 | 662 | 46 |
| 15 | .59131 | .73323 | 1.3638 | .80644 | 45 |
| 16 | 154 | 368 | .3630 | 627 | 44 |
| 17 | 178 | 413 | .3622 | 610 | 43 |
| 18 | 201 | 457 | .3613 | 593 | 42 |
| 19 | 225 | 502 | .3605 | 576 | 41 |
| 20 | .59248 | .73547 | 1.3597 | .80558 | 40 |
| 21 | 272 | 592 | .3588 | 541 | 39 |
| 22 | 295 | 637 | .3580 | 524 | 38 |
| 23 | 318 | 681 | .3572 | 507 | 37 |
| 24 | 342 | 726 | .3564 | 489 | 36 |
| 25 | .59365 | .73771 | 1.3555 | .80472 | 35 |
| 26 | 389 | 816 | .3547 | 455 | 34 |
| 27 | 412 | 861 | .3539 | 438 | 33 |
| 28 | 436 | 906 | .3531 | 420 | 32 |
| 29 | 459 | 951 | .3522 | 403 | 31 |
| 30 | .59482 | .73996 | 1.3514 | .80386 | 30 |
| 31 | 506 | .74041 | .3506 | 368 | 29 |
| 32 | 529 | 086 | .3498 | 351 | 28 |
| 33 | 552 | 131 | .3490 | 334 | 27 |
| 34 | 576 | 176 | .3481 | 316 | 26 |
| 35 | .59599 | .74221 | 1.3473 | .80299 | 25 |
| 36 | 622 | 267 | .3465 | 282 | 24 |
| 37 | 646 | 312 | .3457 | 264 | 23 |
| 38 | 669 | 357 | .3449 | 247 | 22 |
| 39 | 693 | 402 | .3440 | 230 | 21 |
| 40 | .59716 | .74447 | 1.3432 | .80212 | 20 |
| 41 | 739 | 492 | .3424 | 195 | 19 |
| 42 | 763 | 538 | .3416 | 178 | 18 |
| 43 | 786 | 583 | .3408 | 160 | 17 |
| 44 | 809 | 628 | .3400 | 143 | 16 |
| 45 | .59832 | .74674 | 1.3392 | .80125 | 15 |
| 46 | 856 | 719 | .3384 | 108 | 14 |
| 47 | 879 | 764 | .3375 | 091 | 13 |
| 48 | 902 | 810 | .3367 | 073 | 12 |
| 49 | 926 | 855 | .3359 | 056 | 11 |
| 50 | .59949 | .74900 | 1.3351 | .80038 | 10 |
| 51 | 972 | 946 | .3343 | 021 | 9 |
| 52 | .59995 | .74991 | .3335 | .80003 | 8 |
| 53 | .60019 | .75037 | .3327 | .79986 | 7 |
| 54 | 042 | 082 | .3319 | 968 | 6 |
| 55 | .60065 | .75128 | 1.3311 | .79951 | 5 |
| 56 | 089 | 173 | .3303 | 934 | 4 |
| 57 | 112 | 219 | .3295 | 916 | 3 |
| 58 | 135 | 264 | .3287 | 899 | 2 |
| 59 | 158 | 310 | .3278 | 881 | 1 |
| 60 | .60182 | .75355 | 1.3270 | .79864 | 0 |
| | Cos | Ctn | Tan | Sin | / |

| / | Sin | Tan | Ctn | Cos | |
|----|--------|--------|--------|--------|----|
| 0 | .60182 | .75355 | 1.3270 | .79864 | 60 |
| 1 | 205 | 401 | .3262 | 846 | 59 |
| 2 | 228 | 447 | .3254 | 829 | 58 |
| 3 | 251 | 492 | .3246 | 811 | 57 |
| 4 | 274 | 538 | .3238 | 793 | 56 |
| 5 | .60298 | .75584 | 1.3230 | .79776 | 55 |
| 6 | 321 | 629 | .3222 | 758 | 54 |
| 7 | 344 | 675 | .3214 | 741 | 53 |
| 8 | 367 | 721 | .3206 | 723 | 52 |
| 9 | 390 | 767 | .3198 | 706 | 51 |
| 10 | .60414 | .75812 | 1.3190 | .79688 | 50 |
| 11 | 437 | 858 | .3182 | 671 | 49 |
| 12 | 460 | 904 | .3175 | 653 | 48 |
| 13 | 483 | 950 | .3167 | 635 | 47 |
| 14 | 506 | .75996 | .3159 | 618 | 46 |
| 15 | .60529 | .76042 | 1.3151 | .79600 | 45 |
| 16 | 553 | 088 | .3143 | 583 | 44 |
| 17 | 576 | 134 | .3135 | 565 | 43 |
| 18 | 599 | 180 | .3127 | 547 | 42 |
| 19 | 622 | 226 | .3119 | 530 | 41 |
| 20 | .60645 | .76272 | 1.3111 | .79512 | 40 |
| 21 | 668 | 318 | .3103 | 494 | 39 |
| 22 | 691 | 364 | .3095 | 477 | 38 |
| 23 | 714 | 410 | .3087 | 459 | 37 |
| 24 | 738 | 456 | .3079 | 441 | 36 |
| 25 | .60761 | .76502 | 1.3072 | .79424 | 35 |
| 26 | 784 | 548 | .3064 | 406 | 34 |
| 27 | 807 | 594 | .3056 | 388 | 33 |
| 28 | 830 | 640 | .3048 | 371 | 32 |
| 29 | 853 | 686 | .3040 | 353 | 31 |
| 30 | .60876 | .76733 | 1.3032 | .79335 | 30 |
| 31 | 899 | 779 | .3024 | 318 | 29 |
| 32 | 922 | 825 | .3017 | 300 | 28 |
| 33 | 945 | 871 | .3009 | 282 | 27 |
| 34 | 968 | 918 | .3001 | 264 | 26 |
| 35 | .60991 | .76964 | 1.2993 | .79247 | 25 |
| 36 | .61015 | .77010 | .2985 | 229 | 24 |
| 37 | 038 | 057 | .2977 | 211 | 23 |
| 38 | 061 | 103 | .2970 | 193 | 22 |
| 39 | 084 | 149 | .2962 | 176 | 21 |
| 40 | .61107 | .77196 | 1.2954 | .79158 | 20 |
| 41 | 130 | 242 | .2946 | 140 | 19 |
| 42 | 153 | 289 | .2938 | 122 | 18 |
| 43 | 176 | 335 | .2931 | 105 | 17 |
| 44 | 199 | 382 | .2923 | 087 | 16 |
| 45 | .61222 | .77428 | 1.2915 | .79069 | 15 |
| 46 | 245 | 475 | .2907 | 051 | 14 |
| 47 | 268 | 521 | .2900 | 033 | 13 |
| 48 | 291 | 568 | .2892 | .79016 | 12 |
| 49 | 314 | 615 | .2884 | .78993 | 11 |
| 50 | .61337 | .77661 | 1.2876 | .78980 | 10 |
| 51 | 360 | 708 | .2869 | 962 | 9 |
| 52 | 383 | 754 | .2861 | 944 | 8 |
| 53 | 406 | 801 | .2853 | 926 | 7 |
| 54 | 429 | 848 | .2846 | 908 | 6 |
| 55 | .61451 | .77895 | 1.2838 | .78891 | 5 |
| 56 | 474 | 941 | .2830 | 873 | 4 |
| 57 | 497 | .77988 | .2822 | 855 | 3 |
| 58 | 520 | .78035 | .2815 | 837 | 2 |
| 59 | 543 | 082 | .2807 | 819 | 1 |
| 60 | .61566 | .78129 | 1.2799 | .78801 | 0 |
| | Cos | Ctn | Tan | Sin | / |

| ' | Sin | Tan | Ctn | Cos | |
|----|--------|--------|--------|--------|----|
| 0 | .61566 | .78129 | 1.2799 | .78801 | 60 |
| 1 | 589 | 175 | .2792 | 783 | 59 |
| 2 | 612 | 222 | .2784 | 765 | 58 |
| 3 | 635 | 269 | .2776 | 747 | 57 |
| 4 | 658 | 316 | .2769 | 729 | 56 |
| 5 | .61681 | .78363 | 1.2761 | .78711 | 55 |
| 6 | 704 | 410 | .2753 | 694 | 54 |
| 7 | 726 | 457 | .2746 | 676 | 53 |
| 8 | 749 | 504 | .2738 | 658 | 52 |
| 9 | 772 | 551 | .2731 | 640 | 51 |
| 10 | .61795 | .78598 | 1.2723 | .78622 | 50 |
| 11 | 818 | 645 | .2715 | 604 | 49 |
| 12 | 841 | 692 | .2708 | 586 | 48 |
| 13 | 864 | 739 | .2700 | 568 | 47 |
| 14 | 887 | 786 | .2693 | 550 | 46 |
| 15 | .61909 | .78834 | 1.2685 | .78532 | 45 |
| 16 | 932 | 881 | .2677 | 514 | 44 |
| 17 | 955 | 928 | .2670 | 496 | 43 |
| 18 | .61978 | .78975 | .2662 | 478 | 42 |
| 19 | .62001 | .79022 | .2655 | 460 | 41 |
| 20 | .62024 | .79070 | 1.2647 | .78442 | 40 |
| 21 | 046 | 117 | .2640 | 424 | 39 |
| 22 | 069 | 164 | .2632 | 405 | 38 |
| 23 | 092 | 212 | .2624 | 387 | 37 |
| 24 | 115 | 259 | .2617 | 369 | 36 |
| 25 | .62138 | .79306 | 1.2609 | .78351 | 35 |
| 26 | 160 | 354 | .2602 | 333 | 34 |
| 27 | 183 | 401 | .2594 | 315 | 33 |
| 28 | 206 | 449 | .2587 | 297 | 32 |
| 29 | 229 | 496 | .2579 | 279 | 31 |
| 30 | .62251 | .79544 | 1.2572 | .78261 | 30 |
| 31 | 274 | 591 | .2564 | 243 | 29 |
| 32 | 297 | 639 | .2557 | 225 | 28 |
| 33 | 320 | 686 | .2549 | 206 | 27 |
| 34 | 342 | 734 | .2542 | 188 | 26 |
| 35 | .62365 | .79781 | 1.2534 | .78170 | 25 |
| 36 | 388 | 829 | .2527 | 152 | 24 |
| 37 | 411 | 877 | .2519 | 134 | 23 |
| 38 | 433 | 924 | .2512 | 116 | 22 |
| 39 | 456 | .79972 | .2504 | 098 | 21 |
| 40 | .62479 | .80020 | 1.2497 | .78079 | 20 |
| 41 | 502 | 067 | .2489 | 061 | 19 |
| 42 | 524 | 115 | .2482 | 043 | 18 |
| 43 | 547 | 163 | .2475 | 025 | 17 |
| 44 | 570 | 211 | .2467 | .78007 | 16 |
| 45 | .62592 | .80258 | 1.2460 | .77988 | 15 |
| 46 | 615 | 306 | .2452 | 970 | 14 |
| 47 | 638 | 354 | .2445 | 952 | 13 |
| 48 | 660 | 402 | .2437 | 934 | 12 |
| 49 | 683 | 450 | .2430 | 916 | 11 |
| 50 | .62706 | .80498 | 1.2423 | .77897 | 10 |
| 51 | 728 | 546 | .2415 | 879 | 9 |
| 52 | 751 | 594 | .2408 | 861 | 8 |
| 53 | 774 | 642 | .2401 | 843 | 7 |
| 54 | 796 | 690 | .2393 | 824 | 6 |
| 55 | .62819 | .80738 | 1.2386 | .77806 | 5 |
| 56 | 842 | 786 | .2378 | 788 | 4 |
| 57 | 864 | 834 | .2371 | 769 | 3 |
| 58 | 887 | 882 | .2364 | 751 | 2 |
| 59 | 909 | 930 | .2356 | 733 | 1 |
| 60 | .62932 | .80978 | 1.2349 | .77715 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | |
|----|--------|--------|--------|--------|----|
| 0 | .62932 | .80978 | 1.2349 | .77715 | 60 |
| 1 | 955 | .81027 | .2342 | 696 | 59 |
| 2 | .62977 | 075 | .2334 | 678 | 58 |
| 3 | .63000 | 123 | .2327 | 660 | 57 |
| 4 | 022 | 171 | .2320 | 641 | 56 |
| 5 | .63045 | .81220 | 1.2312 | .77623 | 55 |
| 6 | 068 | 268 | .2305 | 605 | 54 |
| 7 | 090 | 316 | .2298 | 586 | 53 |
| 8 | 113 | 364 | .2290 | 568 | 52 |
| 9 | 135 | 413 | .2283 | 550 | 51 |
| 10 | .63158 | .81461 | 1.2276 | .77531 | 50 |
| 11 | 180 | 510 | .2268 | 513 | 49 |
| 12 | 203 | 558 | .2261 | 494 | 48 |
| 13 | 225 | 606 | .2254 | 476 | 47 |
| 14 | 248 | 655 | .2247 | 458 | 46 |
| 15 | .63271 | .81703 | 1.2239 | .77439 | 45 |
| 16 | 293 | 752 | .2232 | 421 | 44 |
| 17 | 316 | 800 | .2225 | 402 | 43 |
| 18 | 338 | 849 | .2218 | 384 | 42 |
| 19 | 361 | 898 | .2210 | 366 | 41 |
| 20 | .63383 | .81946 | 1.2203 | .77347 | 40 |
| 21 | 406 | .81995 | .2196 | 329 | 39 |
| 22 | 428 | .82044 | .2189 | 310 | 38 |
| 23 | 451 | 092 | .2181 | 292 | 37 |
| 24 | 473 | 141 | .2174 | 273 | 36 |
| 25 | .63496 | .82190 | 1.2167 | .77255 | 35 |
| 26 | 518 | 238 | .2160 | 236 | 34 |
| 27 | 540 | 287 | .2153 | 218 | 33 |
| 28 | 563 | 336 | .2145 | 199 | 32 |
| 29 | 585 | 385 | .2138 | 181 | 31 |
| 30 | .63608 | .82434 | 1.2131 | .77162 | 30 |
| 31 | 630 | 483 | .2124 | 144 | 29 |
| 32 | 653 | 531 | .2117 | 125 | 28 |
| 33 | 675 | 580 | .2109 | 107 | 27 |
| 34 | 698 | 629 | .2102 | 088 | 26 |
| 35 | .63720 | .82678 | 1.2095 | .77070 | 25 |
| 36 | 742 | 727 | .2088 | 051 | 24 |
| 37 | 765 | 776 | .2081 | 033 | 23 |
| 38 | 787 | 825 | .2074 | .77014 | 22 |
| 39 | 810 | 874 | .2066 | .76996 | 21 |
| 40 | .63832 | .82923 | 1.2059 | .76977 | 20 |
| 41 | 854 | .82972 | .2052 | 959 | 19 |
| 42 | 877 | .83022 | .2045 | 940 | 18 |
| 43 | 899 | 071 | .2038 | 921 | 17 |
| 44 | 922 | 120 | .2031 | 903 | 16 |
| 45 | .63944 | .83169 | 1.2024 | .76884 | 15 |
| 46 | 966 | 218 | .2017 | 866 | 14 |
| 47 | .63989 | 268 | .2009 | 847 | 13 |
| 48 | .64011 | 317 | .2002 | 828 | 12 |
| 49 | 033 | 366 | .1995 | 810 | 11 |
| 50 | .64056 | .83415 | 1.1988 | .76791 | 10 |
| 51 | 078 | 465 | .1981 | 772 | 9 |
| 52 | 100 | 514 | .1974 | 754 | 8 |
| 53 | 123 | 564 | .1967 | 735 | 7 |
| 54 | 145 | 613 | .1960 | 717 | 6 |
| 55 | .64167 | .83662 | 1.1953 | .76698 | 5 |
| 56 | 190 | 712 | .1946 | 679 | 4 |
| 57 | 212 | 761 | .1939 | 661 | 3 |
| 58 | 234 | 811 | .1932 | 642 | 2 |
| 59 | 256 | 860 | .1925 | 623 | 1 |
| 60 | .64279 | .83910 | 1.1918 | .76604 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | ' |
|----|--------|--------|--------|--------|----|
| 0 | .64279 | .83910 | 1.1918 | .76604 | 60 |
| 1 | 301 | .83960 | .1910 | 586 | 59 |
| 2 | 323 | .84009 | .1903 | 567 | 58 |
| 3 | 346 | .059 | .1896 | 548 | 57 |
| 4 | 368 | 108 | .1889 | 530 | 56 |
| 5 | .64390 | .84158 | 1.1882 | .76511 | 55 |
| 6 | 412 | 208 | .1875 | 492 | 54 |
| 7 | 435 | 258 | .1868 | 473 | 53 |
| 8 | 457 | 307 | .1861 | 455 | 52 |
| 9 | 479 | 357 | .1854 | 436 | 51 |
| 10 | .64501 | .84407 | 1.1847 | .76417 | 50 |
| 11 | 524 | 457 | .1840 | 398 | 49 |
| 12 | 546 | 507 | .1833 | 380 | 48 |
| 13 | 568 | 556 | .1826 | 361 | 47 |
| 14 | 590 | 606 | .1819 | 342 | 46 |
| 15 | .64612 | .84656 | 1.1812 | .76323 | 45 |
| 16 | 635 | 706 | .1806 | 304 | 44 |
| 17 | 657 | 756 | .1799 | 286 | 43 |
| 18 | 679 | 806 | .1792 | 267 | 42 |
| 19 | 701 | 856 | .1785 | 248 | 41 |
| 20 | .64723 | .84906 | 1.1778 | .76229 | 40 |
| 21 | 746 | .84956 | .1771 | 210 | 39 |
| 22 | 768 | .85006 | .1764 | 192 | 38 |
| 23 | 790 | 057 | .1757 | 173 | 37 |
| 24 | 812 | 107 | .1750 | 154 | 36 |
| 25 | .64834 | .85157 | 1.1743 | .76135 | 35 |
| 26 | 856 | 207 | .1736 | 116 | 34 |
| 27 | 878 | 257 | .1729 | 097 | 33 |
| 28 | 901 | 308 | .1722 | 078 | 32 |
| 29 | 923 | 358 | .1715 | 059 | 31 |
| 30 | .64945 | .85408 | 1.1708 | .76041 | 30 |
| 31 | 967 | 458 | .1702 | 022 | 29 |
| 32 | .64989 | 509 | .1695 | .76003 | 28 |
| 33 | .65011 | 559 | .1688 | .75984 | 27 |
| 34 | 033 | 609 | .1681 | 965 | 26 |
| 35 | .65055 | .85660 | 1.1674 | .75946 | 25 |
| 36 | 077 | 710 | .1667 | 927 | 24 |
| 37 | 100 | 761 | .1660 | 908 | 23 |
| 38 | 122 | 811 | .1653 | 889 | 22 |
| 39 | 144 | 862 | .1647 | 870 | 21 |
| 40 | .65166 | .85912 | 1.1640 | .75851 | 20 |
| 41 | 188 | .85963 | .1633 | 832 | 19 |
| 42 | 210 | .86014 | .1626 | 813 | 18 |
| 43 | 232 | 064 | .1619 | 794 | 17 |
| 44 | 254 | 115 | .1612 | 775 | 16 |
| 45 | .65276 | .86166 | 1.1606 | .75756 | 15 |
| 46 | 298 | 216 | .1599 | 738 | 14 |
| 47 | 320 | 267 | .1592 | 719 | 13 |
| 48 | 342 | 318 | .1585 | 700 | 12 |
| 49 | 364 | 368 | .1578 | 680 | 11 |
| 50 | .65386 | .86419 | 1.1571 | .75661 | 10 |
| 51 | 408 | 470 | .1565 | 642 | 9 |
| 52 | 430 | 521 | .1558 | 623 | 8 |
| 53 | 452 | 572 | .1551 | 604 | 7 |
| 54 | 474 | 623 | .1544 | 585 | 6 |
| 55 | .65496 | .86674 | 1.1538 | .75566 | 5 |
| 56 | 518 | 725 | .1531 | 547 | 4 |
| 57 | 540 | 776 | .1524 | 528 | 3 |
| 58 | 562 | 827 | .1517 | 509 | 2 |
| 59 | 584 | 878 | .1510 | 490 | 1 |
| 60 | .65606 | .86929 | 1.1504 | .75471 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | ' |
|----|--------|--------|--------|--------|----|
| 0 | .65606 | .86929 | 1.1504 | .75471 | 60 |
| 1 | 628 | .86980 | .1497 | 452 | 59 |
| 2 | 650 | .87031 | .1490 | 433 | 58 |
| 3 | 672 | 082 | .1483 | 414 | 57 |
| 4 | 694 | 133 | .1477 | 395 | 56 |
| 5 | .65716 | .87184 | 1.1470 | .75375 | 55 |
| 6 | 738 | 236 | .1463 | 356 | 54 |
| 7 | 759 | 287 | .1456 | 337 | 53 |
| 8 | 781 | 338 | .1450 | 318 | 52 |
| 9 | 803 | 389 | .1443 | 299 | 51 |
| 10 | .65825 | .87441 | 1.1436 | .75280 | 50 |
| 11 | 847 | 492 | .1430 | 261 | 49 |
| 12 | 869 | 543 | .1423 | 241 | 48 |
| 13 | 891 | 595 | .1416 | 222 | 47 |
| 14 | 913 | 646 | .1410 | 203 | 46 |
| 15 | .65935 | .87698 | 1.1403 | .75184 | 45 |
| 16 | 956 | 749 | .1396 | 165 | 44 |
| 17 | .65978 | 801 | .1389 | 146 | 43 |
| 18 | .66000 | 852 | .1383 | 126 | 42 |
| 19 | 022 | 904 | .1376 | 107 | 41 |
| 20 | .66044 | .87955 | 1.1369 | .75088 | 40 |
| 21 | 066 | .88007 | .1363 | 069 | 39 |
| 22 | 088 | 059 | .1356 | 050 | 38 |
| 23 | 109 | 110 | .1349 | 030 | 37 |
| 24 | 131 | 162 | .1343 | .75011 | 36 |
| 25 | .66153 | .88214 | 1.1336 | .74992 | 35 |
| 26 | 175 | 265 | .1329 | 973 | 34 |
| 27 | 197 | 317 | .1323 | 953 | 33 |
| 28 | 218 | 369 | .1316 | 934 | 32 |
| 29 | 240 | 421 | .1310 | 915 | 31 |
| 30 | .66262 | .88473 | 1.1303 | .74896 | 30 |
| 31 | 284 | 524 | .1296 | 876 | 29 |
| 32 | 306 | 576 | .1290 | 857 | 28 |
| 33 | 327 | 628 | .1283 | 838 | 27 |
| 34 | 349 | 680 | .1276 | 818 | 26 |
| 35 | .66371 | .88732 | 1.1270 | .74799 | 25 |
| 36 | 393 | 784 | .1263 | 780 | 24 |
| 37 | 414 | 836 | .1257 | 760 | 23 |
| 38 | 436 | 888 | .1250 | 741 | 22 |
| 39 | 458 | 940 | .1243 | 722 | 21 |
| 40 | .66480 | .88992 | 1.1237 | .74703 | 20 |
| 41 | 501 | .89045 | .1230 | 683 | 19 |
| 42 | 523 | 097 | .1224 | 664 | 18 |
| 43 | 545 | 149 | .1217 | 644 | 17 |
| 44 | 566 | 201 | .1211 | 625 | 16 |
| 45 | .66588 | .89253 | 1.1204 | .74606 | 15 |
| 46 | 610 | 306 | .1197 | 586 | 14 |
| 47 | 632 | 358 | .1191 | 567 | 13 |
| 48 | 653 | 410 | .1184 | 548 | 12 |
| 49 | 675 | 463 | .1178 | 528 | 11 |
| 50 | .66697 | .89515 | 1.1171 | .74509 | 10 |
| 51 | 718 | 567 | .1165 | 489 | 9 |
| 52 | 740 | 620 | .1158 | 470 | 8 |
| 53 | 762 | 672 | .1152 | 451 | 7 |
| 54 | 783 | 725 | .1145 | 431 | 6 |
| 55 | .66805 | .89777 | 1.1139 | .74412 | 5 |
| 56 | 827 | 830 | .1132 | 392 | 4 |
| 57 | 848 | 883 | .1126 | 373 | 3 |
| 58 | 870 | 935 | .1119 | 353 | 2 |
| 59 | 891 | .89988 | .1113 | 334 | 1 |
| 60 | .66913 | .90040 | 1.1106 | .74314 | 0 |
| | Cos | Ctn | Tan | Sin | ' |

| ' | Sin | Tan | Ctn | Cos | ' |
|-----|--------|--------|--------|--------|----|
| 0 | .66913 | .90040 | 1.1106 | .74314 | 60 |
| 1 | 935 | 093 | .1100 | 295 | 59 |
| 2 | 956 | 146 | .1093 | 276 | 58 |
| 3 | 978 | 199 | .1087 | 256 | 57 |
| 4 | .66999 | 251 | .1080 | 237 | 56 |
| 5 | .67021 | .90304 | 1.1074 | .74217 | 55 |
| 6 | 043 | 357 | .1067 | 198 | 54 |
| 7 | 064 | 410 | .1061 | 178 | 53 |
| 8 | 086 | 463 | .1054 | 159 | 52 |
| 9 | 107 | 516 | .1048 | 139 | 51 |
| 10 | .67129 | .90569 | 1.1041 | .74120 | 50 |
| 11 | 151 | 621 | .1035 | 100 | 49 |
| 12 | 172 | 674 | .1028 | 080 | 48 |
| 13 | 194 | 727 | .1022 | 061 | 47 |
| 14 | 215 | 781 | .1016 | 041 | 46 |
| 15 | .67237 | .90834 | 1.1009 | .74022 | 45 |
| 16 | 258 | 887 | .1003 | .74002 | 44 |
| 17 | 280 | 940 | .0996 | .73983 | 43 |
| 18 | 301 | .90993 | .0990 | 963 | 42 |
| 19 | 323 | .91046 | .0983 | 944 | 41 |
| 20 | .67344 | .91099 | 1.0977 | .73924 | 40 |
| 21 | 366 | 153 | .0971 | 904 | 39 |
| 22 | 387 | 206 | .0964 | 885 | 38 |
| 23 | 409 | 259 | .0958 | 865 | 37 |
| 24 | 430 | 313 | .0951 | 846 | 36 |
| 25 | .67452 | .91366 | 1.0945 | .73825 | 35 |
| 26 | 473 | 419 | .0939 | 806 | 34 |
| 27 | 495 | 473 | .0932 | 787 | 33 |
| 28 | 516 | 526 | .0926 | 767 | 32 |
| 29 | 538 | 580 | .0919 | 747 | 31 |
| 30 | .67559 | .91633 | 1.0913 | .73728 | 30 |
| 31 | 580 | 687 | .0907 | 708 | 29 |
| 32 | 602 | 740 | .0900 | 688 | 28 |
| 33 | 623 | 794 | .0894 | 669 | 27 |
| 34 | 645 | 847 | .0888 | 649 | 26 |
| 35 | .67666 | .91901 | 1.0881 | .73629 | 25 |
| 36 | 688 | .91955 | .0875 | 610 | 24 |
| 37 | 709 | .92008 | .0869 | 590 | 23 |
| 38 | 730 | 062 | .0862 | 570 | 22 |
| 39 | 752 | 116 | .0856 | 551 | 21 |
| 40 | .67773 | .92170 | 1.0850 | .73531 | 20 |
| 41 | 795 | 224 | .0843 | 511 | 19 |
| 42 | 816 | 277 | .0837 | 491 | 18 |
| 43 | 837 | 331 | .0831 | 472 | 17 |
| 44 | 859 | 385 | .0824 | 452 | 16 |
| 45 | .67880 | .92439 | 1.0818 | .73432 | 15 |
| 46 | 901 | 493 | .0812 | 413 | 14 |
| 47 | 923 | 547 | .0805 | 393 | 13 |
| 48 | 944 | 601 | .0799 | 373 | 12 |
| 49 | 965 | 655 | .0793 | 353 | 11 |
| 50 | .67987 | .92709 | 1.0786 | .73333 | 10 |
| 51 | .68008 | 763 | .0780 | 314 | 9 |
| 52 | 029 | 817 | .0774 | 294 | 8 |
| 53 | 051 | 872 | .0768 | 274 | 7 |
| 54 | 072 | 926 | .0761 | 254 | 6 |
| 55 | .68093 | .92980 | 1.0755 | .73234 | 5 |
| 56 | 115 | .93034 | .0749 | 215 | 4 |
| 57 | 136 | 088 | .0742 | 195 | 3 |
| 58 | 157 | 143 | .0736 | 175 | 2 |
| 59 | 179 | 197 | .0730 | 155 | 1 |
| 60 | .68200 | .93252 | 1.0724 | .73135 | 0 |
| Cos | Ctn | Tan | Sin | ' | |

| ' | Sin | Tan | Ctn | Cos | ' |
|-----|--------|--------|--------|--------|----|
| 0 | .68200 | .93252 | 1.0724 | .73135 | 60 |
| 1 | 221 | 306 | .0717 | 116 | 59 |
| 2 | 242 | 360 | .0711 | 096 | 58 |
| 3 | 264 | 415 | .0705 | 076 | 57 |
| 4 | 285 | 469 | .0699 | 056 | 56 |
| 5 | .68306 | .93524 | 1.0692 | .73036 | 55 |
| 6 | 327 | 578 | .0686 | .73016 | 54 |
| 7 | 349 | 633 | .0680 | .72996 | 53 |
| 8 | 370 | 688 | .0674 | 976 | 52 |
| 9 | 391 | 742 | .0668 | 957 | 51 |
| 10 | .68412 | .93797 | 1.0661 | .72937 | 50 |
| 11 | 434 | 852 | .0655 | 917 | 49 |
| 12 | 455 | 906 | .0649 | 897 | 48 |
| 13 | 476 | .93961 | .0643 | 877 | 47 |
| 14 | 497 | .94016 | .0637 | 857 | 46 |
| 15 | .68518 | .94071 | 1.0630 | .72837 | 45 |
| 16 | 539 | 125 | .0624 | 817 | 44 |
| 17 | 561 | 180 | .0618 | 797 | 43 |
| 18 | 582 | 235 | .0612 | 777 | 42 |
| 19 | 603 | 290 | .0606 | 757 | 41 |
| 20 | .68624 | .94345 | 1.0599 | .72737 | 40 |
| 21 | 645 | 400 | .0593 | 717 | 39 |
| 22 | 666 | 455 | .0587 | 697 | 38 |
| 23 | 688 | 510 | .0581 | 677 | 37 |
| 24 | 709 | 565 | .0575 | 657 | 36 |
| 25 | .68730 | .94620 | 1.0569 | .72637 | 35 |
| 26 | 751 | 676 | .0562 | 617 | 34 |
| 27 | 772 | 731 | .0556 | 597 | 33 |
| 28 | 793 | 786 | .0550 | 577 | 32 |
| 29 | 814 | 841 | .0544 | 557 | 31 |
| 30 | .68835 | .94896 | 1.0538 | .72537 | 30 |
| 31 | 857 | .94952 | .0532 | 517 | 29 |
| 32 | 878 | .95007 | .0526 | 497 | 28 |
| 33 | 899 | 062 | .0519 | 477 | 27 |
| 34 | 920 | 118 | .0513 | 457 | 26 |
| 35 | .68941 | .95173 | 1.0507 | .72437 | 25 |
| 36 | 962 | 229 | .0501 | 417 | 24 |
| 37 | .68983 | 284 | .0495 | 397 | 23 |
| 38 | .69004 | 340 | .0489 | 377 | 22 |
| 39 | 025 | 395 | .0483 | 357 | 21 |
| 40 | .69046 | .95451 | 1.0477 | .72337 | 20 |
| 41 | 067 | 506 | .0470 | 317 | 19 |
| 42 | 088 | 562 | .0464 | 297 | 18 |
| 43 | 109 | 618 | .0458 | 277 | 17 |
| 44 | 130 | 673 | .0452 | 257 | 16 |
| 45 | .69151 | .95729 | 1.0446 | .72236 | 15 |
| 46 | 172 | 785 | .0440 | 216 | 14 |
| 47 | 193 | 841 | .0434 | 196 | 13 |
| 48 | 214 | 897 | .0428 | 176 | 12 |
| 49 | 235 | .95952 | .0422 | 156 | 11 |
| 50 | .69256 | .96008 | 1.0416 | .72136 | 10 |
| 51 | 277 | 064 | .0410 | 116 | 9 |
| 52 | 298 | 120 | .0404 | 095 | 8 |
| 53 | 319 | 176 | .0398 | 075 | 7 |
| 54 | 340 | 232 | .0392 | 055 | 6 |
| 55 | .69361 | .96288 | 1.0385 | .72035 | 5 |
| 56 | 382 | 344 | .0379 | .72015 | 4 |
| 57 | 403 | 400 | .0373 | .71995 | 3 |
| 58 | 424 | 457 | .0367 | 974 | 2 |
| 59 | 445 | 513 | .0361 | 954 | 1 |
| 60 | .69466 | .96569 | 1.0355 | .71934 | 0 |
| Cos | Ctn | Tan | Sin | ' | |

| <i>i</i> | Sin | Tan | Ctn | Cos | |
|-----------|--------|--------|--------|--------|-----------|
| 0 | .69466 | .96569 | 1.0355 | .71934 | 60 |
| 1 | 487 | 625 | .0349 | 914 | 59 |
| 2 | 508 | 681 | .0343 | 894 | 58 |
| 3 | 529 | 738 | .0337 | 873 | 57 |
| 4 | 549 | 794 | .0331 | 853 | 56 |
| 5 | .69570 | .96850 | 1.0325 | .71833 | 55 |
| 6 | 591 | 907 | .0319 | 813 | 54 |
| 7 | 612 | .96963 | .0313 | 792 | 53 |
| 8 | 633 | .97020 | .0307 | 772 | 52 |
| 9 | 654 | 076 | .0301 | 752 | 51 |
| 10 | .69675 | .97133 | 1.0295 | .71732 | 50 |
| 11 | 696 | 189 | .0289 | 711 | 49 |
| 12 | 717 | 246 | .0283 | 691 | 48 |
| 13 | 737 | 302 | .0277 | 671 | 47 |
| 14 | 758 | 359 | .0271 | 650 | 46 |
| 15 | .69779 | .97416 | 1.0265 | .71630 | 45 |
| 16 | 800 | 472 | .0259 | 610 | 44 |
| 17 | 821 | 529 | .0253 | 590 | 43 |
| 18 | 842 | 586 | .0247 | 569 | 42 |
| 19 | 862 | 643 | .0241 | 549 | 41 |
| 20 | .69883 | .97700 | 1.0235 | .71529 | 40 |
| 21 | 904 | 756 | .0230 | 508 | 39 |
| 22 | 925 | 813 | .0224 | 488 | 38 |
| 23 | 946 | 870 | .0218 | 468 | 37 |
| 24 | 966 | 927 | .0212 | 447 | 36 |
| 25 | .69987 | .97984 | 1.0206 | .71427 | 35 |
| 26 | .70008 | .98041 | .0200 | 407 | 34 |
| 27 | 029 | 008 | .0194 | 386 | 33 |
| 28 | 049 | 155 | .0188 | 366 | 32 |
| 29 | 070 | 213 | .0182 | 345 | 31 |
| 30 | .70091 | .98270 | 1.0176 | .71325 | 30 |
| 31 | 112 | 327 | .0170 | 305 | 29 |
| 32 | 132 | 384 | .0164 | 284 | 28 |
| 33 | 153 | 441 | .0158 | 264 | 27 |
| 34 | 174 | 499 | .0152 | 243 | 26 |
| 35 | .70195 | .98556 | 1.0147 | .71223 | 25 |
| 36 | 215 | 613 | .0141 | 203 | 24 |
| 37 | 236 | 671 | .0135 | 182 | 23 |
| 38 | 257 | 728 | .0129 | 162 | 22 |
| 39 | 277 | 786 | .0123 | 141 | 21 |
| 40 | .70298 | .98843 | 1.0117 | .71121 | 20 |
| 41 | 319 | 901 | .0111 | 100 | 19 |
| 42 | 339 | .98958 | .0105 | 080 | 18 |
| 43 | 360 | .99016 | .0099 | 059 | 17 |
| 44 | 381 | 073 | .0094 | 039 | 16 |
| 45 | .70401 | .99131 | 1.0088 | .71019 | 15 |
| 46 | 422 | 189 | .0082 | .70998 | 14 |
| 47 | 443 | 247 | .0076 | 978 | 13 |
| 48 | 463 | 304 | .0070 | 957 | 12 |
| 49 | 484 | 362 | .0064 | 937 | 11 |
| 50 | .70505 | .99420 | 1.0058 | .70916 | 10 |
| 51 | 525 | 478 | .0052 | 896 | 9 |
| 52 | 546 | 536 | .0047 | 875 | 8 |
| 53 | 567 | 594 | .0041 | 855 | 7 |
| 54 | 587 | 652 | .0035 | 834 | 6 |
| 55 | .70608 | .99710 | 1.0029 | .70813 | 5 |
| 56 | 628 | 768 | .0023 | 793 | 4 |
| 57 | 649 | 826 | .0017 | 772 | 3 |
| 58 | 670 | 884 | .0012 | 752 | 2 |
| 59 | 690 | .99942 | .0006 | 731 | 1 |
| 60 | .70711 | 1.0000 | 1.0000 | .70711 | 0 |
| | Cos | Ctn | Tan | Sin | <i>i</i> |

TABLE III

COMMON LOGARITHMS

OF THE

TRIGONOMETRIC FUNCTIONS

FROM

0° TO 90° AT INTERVALS OF ONE MINUTE

TO

FIVE DECIMAL PLACES

NOTE: *To find $\log \sin \alpha$ and $\log \tan \alpha$ more precisely than by ordinary interpolation, for small values of α , if α is not a tabulated angle.*

Let t be the first tabulated angle below α . Express both α and t in the same unit (minutes, or seconds, or any other convenient unit). Then

$$\log \sin \alpha - \log \sin t = \log \alpha - \log t,$$

approximately, at least to five decimal places if $\alpha < 3^\circ$ and $\alpha - t < 1'$.

Now $\log \alpha$ and $\log t$ can be found from Table I, and $\log \sin t$ is tabulated in Table III; hence $\log \sin \alpha$ can be found. Thus to find $\log \sin 1^\circ 12'.4$, write $1^\circ 12'.4 = 72'.4$, and arrange the computation as follows:

$$\begin{array}{rcl}
 \log 72.4 & = & 1.85974 \quad (\text{Table I}) \\
 \log 72.0 & = & 1.85733 \quad (\text{Table I}) \\
 \text{(subtract)} & & \underline{0.00241} \\
 \log \sin 1^\circ 12' & = & \log \sin 72' = 8.32103 - 10 \quad (\text{Table III}) \\
 \log \sin 1^\circ 12'.4 & = & \log \sin 72'.4 = 8.32344 - 10 \quad (\text{Required})
 \end{array}$$

Likewise $\log \tan \alpha - \log \tan t = \log \alpha - \log t$, approximately, at least to five decimal places if $\alpha < 3^\circ$ and $\alpha - t < 1'$. The method of calculation is exactly as above.

The cosines and cotangents of angles near 90° can be found by first reducing them to sines and tangents of angles near 0° . Above 3° ordinary interpolation is quite reliable, but the fifth place may be wrong in any interpolation process.

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | |
|----|----------|-------|----------|-------|----------|----------|----|
| 0 | | | | | | 0.00 000 | 60 |
| 1 | 6.46 373 | 30103 | 6.46 373 | 30103 | 3.53 627 | 0.00 000 | 59 |
| 2 | 6.76 476 | 17609 | 6.76 476 | 17609 | 3.23 524 | 0.00 000 | 58 |
| 3 | 6.94 085 | 12494 | 6.94 085 | 12494 | 3.05 915 | 0.00 000 | 57 |
| 4 | 7.06 579 | 9691 | 7.06 579 | 9691 | 2.93 421 | 0.00 000 | 56 |
| 5 | 7.16 270 | 7918 | 7.16 270 | 7918 | 2.83 730 | 0.00 000 | 55 |
| 6 | 7.24 188 | 6694 | 7.24 188 | 6694 | 2.75 812 | 0.00 000 | 54 |
| 7 | 7.30 882 | 5800 | 7.30 882 | 5800 | 2.69 118 | 0.00 000 | 53 |
| 8 | 7.36 682 | 5115 | 7.36 682 | 5115 | 2.63 318 | 0.00 000 | 52 |
| 9 | 7.41 797 | 4576 | 7.41 797 | 4576 | 2.58 203 | 0.00 000 | 51 |
| 10 | 7.46 373 | 4139 | 7.46 373 | 4139 | 2.53 627 | 0.00 000 | 50 |
| 11 | 7.50 512 | 3779 | 7.50 512 | 3779 | 2.49 488 | 0.00 000 | 49 |
| 12 | 7.54 291 | 3476 | 7.54 291 | 3476 | 2.45 709 | 0.00 000 | 48 |
| 13 | 7.57 767 | 3218 | 7.57 767 | 3219 | 2.42 233 | 0.00 000 | 47 |
| 14 | 7.60 985 | 2997 | 7.60 986 | 2996 | 2.39 014 | 0.00 000 | 46 |
| 15 | 7.63 982 | 2802 | 7.63 982 | 2803 | 2.36 018 | 0.00 000 | 45 |
| 16 | 7.66 784 | 2633 | 7.66 785 | 2633 | 2.33 215 | 0.00 000 | 44 |
| 17 | 7.69 417 | 2483 | 7.69 418 | 2482 | 2.30 582 | 9.99 999 | 43 |
| 18 | 7.71 900 | 2348 | 7.71 900 | 2348 | 2.28 100 | 9.99 999 | 42 |
| 19 | 7.74 248 | 2227 | 7.74 248 | 2228 | 2.25 752 | 9.99 999 | 41 |
| 20 | 7.76 475 | 2119 | 7.76 476 | 2119 | 2.23 524 | 9.99 999 | 40 |
| 21 | 7.78 594 | 2021 | 7.78 595 | 2020 | 2.21 405 | 9.99 999 | 39 |
| 22 | 7.80 615 | 1930 | 7.80 615 | 1931 | 2.19 385 | 9.99 999 | 38 |
| 23 | 7.82 545 | 1848 | 7.82 546 | 1848 | 2.17 454 | 9.99 999 | 37 |
| 24 | 7.84 393 | 1773 | 7.84 394 | 1773 | 2.15 606 | 9.99 999 | 36 |
| 25 | 7.86 166 | 1704 | 7.86 167 | 1704 | 2.13 833 | 9.99 999 | 35 |
| 26 | 7.87 870 | 1639 | 7.87 871 | 1639 | 2.12 129 | 9.99 999 | 34 |
| 27 | 7.89 509 | 1579 | 7.89 510 | 1579 | 2.10 490 | 9.99 999 | 33 |
| 28 | 7.91 088 | 1524 | 7.91 089 | 1524 | 2.08 911 | 9.99 999 | 32 |
| 29 | 7.92 612 | 1472 | 7.92 613 | 1473 | 2.07 387 | 9.99 998 | 31 |
| 30 | 7.94 084 | 1424 | 7.94 086 | 1424 | 2.05 914 | 9.99 998 | 30 |
| 31 | 7.95 508 | 1379 | 7.95 510 | 1379 | 2.04 490 | 9.99 998 | 29 |
| 32 | 7.96 887 | 1336 | 7.96 889 | 1336 | 2.03 111 | 9.99 998 | 28 |
| 33 | 7.98 223 | 1297 | 7.98 225 | 1297 | 2.01 775 | 9.99 998 | 27 |
| 34 | 7.99 520 | 1259 | 7.99 522 | 1259 | 2.00 478 | 9.99 998 | 26 |
| 35 | 8.00 779 | 1223 | 8.00 781 | 1223 | 1.99 219 | 9.99 998 | 25 |
| 36 | 8.02 002 | 1190 | 8.02 004 | 1190 | 1.97 996 | 9.99 998 | 24 |
| 37 | 8.03 192 | 1158 | 8.03 194 | 1159 | 1.96 806 | 9.99 997 | 23 |
| 38 | 8.04 350 | 1128 | 8.04 353 | 1128 | 1.95 647 | 9.99 997 | 22 |
| 39 | 8.05 478 | 1100 | 8.05 481 | 1100 | 1.94 519 | 9.99 997 | 21 |
| 40 | 8.06 578 | 1072 | 8.06 581 | 1072 | 1.93 419 | 9.99 997 | 20 |
| 41 | 8.07 650 | 1046 | 8.07 653 | 1047 | 1.92 347 | 9.99 997 | 19 |
| 42 | 8.08 696 | 1022 | 8.08 700 | 1022 | 1.91 300 | 9.99 997 | 18 |
| 43 | 8.09 718 | 999 | 8.09 722 | 998 | 1.90 278 | 9.99 997 | 17 |
| 44 | 8.10 717 | 976 | 8.10 720 | 976 | 1.89 280 | 9.99 996 | 16 |
| 45 | 8.11 693 | 954 | 8.11 696 | 955 | 1.88 304 | 9.99 996 | 15 |
| 46 | 8.12 647 | 934 | 8.12 651 | 934 | 1.87 349 | 9.99 996 | 14 |
| 47 | 8.13 581 | 914 | 8.13 585 | 915 | 1.86 415 | 9.99 996 | 13 |
| 48 | 8.14 495 | 896 | 8.14 500 | 895 | 1.85 500 | 9.99 996 | 12 |
| 49 | 8.15 391 | 877 | 8.15 395 | 878 | 1.84 605 | 9.99 996 | 11 |
| 50 | 8.16 268 | 860 | 8.16 273 | 860 | 1.83 727 | 9.99 995 | 10 |
| 51 | 8.17 128 | 843 | 8.17 133 | 843 | 1.82 867 | 9.99 995 | 9 |
| 52 | 8.17 971 | 827 | 8.17 976 | 828 | 1.82 024 | 9.99 995 | 8 |
| 53 | 8.18 798 | 812 | 8.18 804 | 812 | 1.81 196 | 9.99 995 | 7 |
| 54 | 8.19 610 | 797 | 8.19 616 | 797 | 1.80 384 | 9.99 995 | 6 |
| 55 | 8.20 407 | 782 | 8.20 413 | 782 | 1.79 587 | 9.99 994 | 5 |
| 56 | 8.21 189 | 769 | 8.21 195 | 769 | 1.78 805 | 9.99 994 | 4 |
| 57 | 8.21 958 | 755 | 8.21 964 | 756 | 1.78 036 | 9.99 994 | 3 |
| 58 | 8.22 713 | 743 | 8.22 720 | 742 | 1.77 280 | 9.99 994 | 2 |
| 59 | 8.23 456 | 730 | 8.23 462 | 730 | 1.76 538 | 9.99 994 | 1 |
| 60 | 8.24 186 | | 8.24 192 | | 1.75 808 | 9.99 993 | 0 |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | ' |

For logarithms of sines or tangents of angles less than 3° (or logarithms of

cosines or cotangents of angles greater than 87°), see Note on interpolation, p. 45.

When the tabular differences are large, that method is usually better. The proportional parts stated for 1° and 2° in this table are sufficient when great accuracy is not required, even if the ordinary method of interpolation is used.

| ° | L Sin | d | L Tan | c d | L Ctn | L Cos | | Prop. Pts. | | | | |
|----|----------|-----|----------|-----|----------|----------|----|------------|------------|-------|-------|-------|
| | | | | | | | | | | | | |
| 0 | 8.24 186 | | 8.24 192 | 718 | 1.75 808 | 9.99 993 | 60 | | | | | |
| 1 | 8.24 903 | 717 | 8.24 910 | 718 | 1.75 000 | 9.99 993 | 59 | 720 | 710 | 690 | 680 | 670 |
| 2 | 8.25 609 | 706 | 8.25 616 | 696 | 1.74 384 | 9.99 993 | 58 | 2 144 | 142 | 138 | 136 | 134 |
| 3 | 8.26 304 | 695 | 8.26 312 | 684 | 1.73 688 | 9.99 993 | 57 | 3 216 | 213 | 207 | 204 | 201 |
| 4 | 8.26 988 | 684 | 8.26 996 | 673 | 1.73 004 | 9.99 992 | 56 | 4 288 | 284 | 276 | 272 | 268 |
| 5 | 8.27 661 | 673 | 8.27 669 | 663 | 1.72 331 | 9.99 992 | 55 | 5 360 | 360 | 355 | 345 | 340 |
| 6 | 8.28 324 | 663 | 8.28 332 | 654 | 1.71 668 | 9.99 992 | 54 | 6 432 | 432 | 426 | 414 | 408 |
| 7 | 8.28 977 | 653 | 8.28 986 | 643 | 1.71 014 | 9.99 992 | 53 | 7 504 | 504 | 497 | 483 | 476 |
| 8 | 8.29 621 | 644 | 8.29 629 | 634 | 1.70 371 | 9.99 992 | 52 | 8 576 | 568 | 552 | 544 | 536 |
| 9 | 8.30 255 | 634 | 8.30 263 | 625 | 1.69 737 | 9.99 991 | 51 | 9 648 | 639 | 621 | 612 | 603 |
| 10 | 8.30 879 | 624 | 8.30 888 | 617 | 1.69 112 | 9.99 991 | 50 | | 660 | 650 | 640 | 630 |
| 11 | 8.31 495 | 616 | 8.31 505 | 607 | 1.68 495 | 9.99 991 | 49 | 2 132 | 130 | 128 | 126 | 124 |
| 12 | 8.32 103 | 608 | 8.32 112 | 599 | 1.67 888 | 9.99 990 | 48 | 3 198 | 195 | 192 | 189 | 186 |
| 13 | 8.32 702 | 599 | 8.32 711 | 591 | 1.67 289 | 9.99 990 | 47 | 4 264 | 260 | 256 | 252 | 248 |
| 14 | 8.33 292 | 583 | 8.33 302 | 584 | 1.66 698 | 9.99 990 | 46 | 5 330 | 325 | 320 | 315 | 310 |
| 15 | 8.33 875 | 575 | 8.33 886 | 575 | 1.66 114 | 9.99 990 | 45 | 6 396 | 390 | 384 | 378 | 372 |
| 16 | 8.34 450 | 568 | 8.34 461 | 568 | 1.65 539 | 9.99 989 | 44 | 7 462 | 455 | 448 | 441 | 434 |
| 17 | 8.35 018 | 560 | 8.35 029 | 561 | 1.64 971 | 9.99 989 | 43 | 8 528 | 520 | 512 | 504 | 496 |
| 18 | 8.35 578 | 553 | 8.35 590 | 553 | 1.64 410 | 9.99 989 | 42 | 9 594 | 585 | 576 | 567 | 558 |
| 19 | 8.36 131 | 547 | 8.36 143 | 546 | 1.63 857 | 9.99 989 | 41 | | 610 | 600 | 590 | 580 |
| 20 | 8.36 678 | 539 | 8.36 689 | 540 | 1.63 311 | 9.99 988 | 40 | 2 122 | 120 | 118 | 116 | 114 |
| 21 | 8.37 217 | 533 | 8.37 229 | 533 | 1.62 771 | 9.99 988 | 39 | 3 183 | 180 | 177 | 174 | 171 |
| 22 | 8.37 750 | 526 | 8.37 762 | 527 | 1.62 238 | 9.99 988 | 38 | 4 244 | 240 | 236 | 232 | 228 |
| 23 | 8.38 276 | 520 | 8.38 289 | 520 | 1.61 711 | 9.99 987 | 37 | 5 305 | 300 | 295 | 290 | 285 |
| 24 | 8.38 796 | 514 | 8.38 809 | 514 | 1.61 191 | 9.99 987 | 36 | 6 366 | 360 | 354 | 348 | 342 |
| 25 | 8.39 310 | 508 | 8.39 323 | 509 | 1.60 677 | 9.99 987 | 35 | 7 427 | 420 | 413 | 406 | 399 |
| 26 | 8.39 818 | 502 | 8.39 832 | 502 | 1.60 168 | 9.99 986 | 34 | 8 488 | 480 | 472 | 464 | 456 |
| 27 | 8.40 320 | 496 | 8.40 334 | 496 | 1.59 666 | 9.99 986 | 33 | 9 549 | 540 | 531 | 522 | 513 |
| 28 | 8.40 816 | 491 | 8.40 830 | 491 | 1.59 170 | 9.99 986 | 32 | | 560 | 550 | 540 | 530 |
| 29 | 8.41 307 | 485 | 8.41 321 | 486 | 1.58 679 | 9.99 985 | 31 | 2 112 | 110 | 108 | 106 | 104 |
| 30 | 8.41 792 | 480 | 8.41 807 | 480 | 1.58 193 | 9.99 985 | 30 | 3 168 | 165 | 162 | 159 | 156 |
| 31 | 8.42 272 | 474 | 8.42 287 | 475 | 1.57 713 | 9.99 985 | 29 | 4 224 | 220 | 216 | 212 | 208 |
| 32 | 8.42 746 | 470 | 8.42 762 | 470 | 1.57 238 | 9.99 984 | 28 | 5 280 | 275 | 270 | 265 | 260 |
| 33 | 8.43 216 | 464 | 8.43 232 | 464 | 1.56 768 | 9.99 984 | 27 | 6 336 | 330 | 324 | 318 | 312 |
| 34 | 8.43 680 | 459 | 8.43 696 | 460 | 1.56 304 | 9.99 984 | 26 | 7 392 | 385 | 378 | 371 | 364 |
| 35 | 8.44 139 | 455 | 8.44 156 | 455 | 1.55 844 | 9.99 983 | 25 | 8 448 | 440 | 432 | 424 | 416 |
| 36 | 8.44 594 | 450 | 8.44 611 | 450 | 1.55 389 | 9.99 983 | 24 | 9 504 | 495 | 486 | 477 | 468 |
| 37 | 8.45 044 | 445 | 8.45 061 | 446 | 1.54 939 | 9.99 983 | 23 | | 510 | 500 | 490 | 480 |
| 38 | 8.45 489 | 441 | 8.45 507 | 441 | 1.54 493 | 9.99 982 | 22 | 2 102 | 100 | 98 | 96 | 94 |
| 39 | 8.45 930 | 436 | 8.45 948 | 437 | 1.54 052 | 9.99 982 | 21 | 3 153 | 150 | 147 | 144 | 141 |
| 40 | 8.46 366 | 433 | 8.46 385 | 432 | 1.53 615 | 9.99 982 | 20 | 4 204 | 200 | 196 | 192 | 188 |
| 41 | 8.46 799 | 427 | 8.46 817 | 428 | 1.53 183 | 9.99 981 | 19 | 5 255 | 250 | 245 | 240 | 235 |
| 42 | 8.47 226 | 424 | 8.47 245 | 424 | 1.52 755 | 9.99 981 | 18 | 6 306 | 300 | 294 | 288 | 282 |
| 43 | 8.47 650 | 419 | 8.47 669 | 420 | 1.52 331 | 9.99 981 | 17 | 7 357 | 350 | 343 | 336 | 329 |
| 44 | 8.48 069 | 416 | 8.48 089 | 416 | 1.51 911 | 9.99 980 | 16 | 8 408 | 400 | 392 | 384 | 376 |
| 45 | 8.48 485 | 411 | 8.48 505 | 412 | 1.51 495 | 9.99 980 | 15 | 9 459 | 450 | 441 | 432 | 423 |
| 46 | 8.48 896 | 408 | 8.48 917 | 408 | 1.51 083 | 9.99 979 | 14 | | 460 | 450 | 440 | 430 |
| 47 | 8.49 304 | 404 | 8.49 325 | 404 | 1.50 675 | 9.99 979 | 13 | 2 92 | 90 | 88 | 86 | 84 |
| 48 | 8.49 708 | 400 | 8.49 729 | 401 | 1.50 271 | 9.99 979 | 12 | 3 138 | 135 | 132 | 129 | 126 |
| 49 | 8.50 108 | 396 | 8.50 130 | 397 | 1.49 870 | 9.99 978 | 11 | 4 184 | 180 | 176 | 172 | 168 |
| 50 | 8.50 504 | 393 | 8.50 527 | 393 | 1.49 473 | 9.99 978 | 10 | 5 230 | 225 | 220 | 215 | 210 |
| 51 | 8.50 897 | 390 | 8.50 920 | 390 | 1.49 080 | 9.99 977 | 9 | 6 276 | 270 | 264 | 258 | 252 |
| 52 | 8.51 287 | 386 | 8.51 310 | 386 | 1.48 690 | 9.99 977 | 8 | 7 322 | 315 | 308 | 301 | 294 |
| 53 | 8.51 673 | 382 | 8.51 696 | 383 | 1.48 304 | 9.99 977 | 7 | 8 368 | 360 | 352 | 344 | 336 |
| 54 | 8.52 055 | 379 | 8.52 079 | 380 | 1.47 921 | 9.99 976 | 6 | 9 414 | 405 | 396 | 387 | 378 |
| 55 | 8.52 434 | 376 | 8.52 459 | 376 | 1.47 541 | 9.99 976 | 5 | | 410 | 400 | 395 | 390 |
| 56 | 8.52 810 | 373 | 8.52 835 | 373 | 1.47 165 | 9.99 975 | 4 | 2 82 | 80 | 79.0 | 78 | 77.0 |
| 57 | 8.53 183 | 369 | 8.53 208 | 370 | 1.46 792 | 9.99 975 | 3 | 3 123 | 120 | 118.5 | 117 | 115.5 |
| 58 | 8.53 552 | 367 | 8.53 578 | 367 | 1.46 422 | 9.99 974 | 2 | 4 164 | 160 | 158.0 | 156 | 154.0 |
| 59 | 8.53 919 | 363 | 8.53 945 | 363 | 1.46 055 | 9.99 974 | 1 | 5 205 | 200 | 197.5 | 195 | 192.5 |
| 60 | 8.54 282 | | 8.54 308 | | 1.45 692 | 9.99 974 | 0 | 6 246 | 240 | 237.0 | 234 | 231.0 |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | i | 7 287 | 280 | 276.5 | 273 | 269.5 |
| | | | | | | | | 8 328 | 320 | 316.0 | 312 | 308.0 |
| | | | | | | | | 9 369 | 360 | 355.5 | 351 | 346.5 |
| | | | | | | | | | 380 | 375 | 370 | 365 |
| | | | | | | | | 2 76 | 75.0 | 74 | 73.0 | 72 |
| | | | | | | | | 3 114 | 112.5 | 111 | 109.5 | 108 |
| | | | | | | | | 4 152 | 150.0 | 148 | 146.0 | 144 |
| | | | | | | | | 5 190 | 187.5 | 185 | 182.5 | 180 |
| | | | | | | | | 6 228 | 225.0 | 222 | 219.0 | 216 |
| | | | | | | | | 7 266 | 262.5 | 259 | 255.5 | 252 |
| | | | | | | | | 8 304 | 300.0 | 296 | 292.0 | 288 |
| | | | | | | | | 9 342 | 337.5 | 333 | 328.5 | 324 |
| | | | | | | | | | Prop. Pts. | | | |

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | | Prop. Pts. |
|----|----------|-----|----------|-----|----------|----------|----|-----------------------|
| 0 | 8.54 282 | | 8.54 308 | | 1.45 692 | 9.99 974 | 60 | |
| 1 | 8.54 642 | 360 | 8.54 669 | 361 | 1.45 331 | 9.99 973 | 59 | |
| 2 | 8.54 999 | 357 | 8.55 027 | 358 | 1.44 973 | 9.99 973 | 58 | |
| 3 | 8.55 354 | 355 | 8.55 382 | 355 | 1.44 618 | 9.99 972 | 57 | |
| 4 | 8.55 705 | 351 | 8.55 734 | 352 | 1.44 266 | 9.99 972 | 56 | |
| 5 | 8.56 054 | 349 | 8.56 083 | 349 | 1.43 917 | 9.99 971 | 55 | |
| 6 | 8.56 400 | 346 | 8.56 429 | 346 | 1.43 571 | 9.99 971 | 54 | 360 355 350 345 |
| 7 | 8.56 743 | 343 | 8.56 773 | 344 | 1.43 227 | 9.99 970 | 53 | 2 72 71.0 70 69.0 |
| 8 | 8.57 084 | 341 | 8.57 114 | 341 | 1.42 886 | 9.99 970 | 52 | 3 108 106.5 105 103.5 |
| 9 | 8.57 421 | 337 | 8.57 452 | 338 | 1.42 548 | 9.99 969 | 51 | 4 144 142.0 140 138.0 |
| 10 | 8.57 757 | 336 | 8.57 788 | 336 | 1.42 212 | 9.99 969 | 50 | 5 180 177.5 175 172.5 |
| 11 | 8.58 089 | 332 | 8.58 121 | 333 | 1.41 879 | 9.99 968 | 49 | 6 216 213.0 210 207.0 |
| 12 | 8.58 419 | 330 | 8.58 451 | 330 | 1.41 549 | 9.99 968 | 48 | 7 252 248.5 245 241.5 |
| 13 | 8.58 747 | 328 | 8.58 779 | 328 | 1.41 221 | 9.99 967 | 47 | 8 288 284.0 280 276.0 |
| 14 | 8.59 072 | 325 | 8.59 105 | 326 | 1.40 895 | 9.99 967 | 46 | 9 324 319.5 315 310.5 |
| 15 | 8.59 395 | 323 | 8.59 428 | 323 | 1.40 572 | 9.99 967 | 45 | 340 335 330 325 |
| 16 | 8.59 715 | 320 | 8.59 749 | 321 | 1.40 251 | 9.99 966 | 44 | 2 68 67.0 66 65.0 |
| 17 | 8.60 033 | 318 | 8.60 068 | 319 | 1.39 932 | 9.99 966 | 43 | 3 102 100.5 99 97.5 |
| 18 | 8.60 349 | 316 | 8.60 384 | 316 | 1.39 616 | 9.99 965 | 42 | 4 136 134.0 132 130.0 |
| 19 | 8.60 662 | 313 | 8.60 698 | 314 | 1.39 302 | 9.99 964 | 41 | 5 170 167.5 165 162.5 |
| 20 | 8.60 973 | 311 | 8.61 009 | 311 | 1.38 991 | 9.99 964 | 40 | 6 204 201.0 198 195.0 |
| 21 | 8.61 282 | 309 | 8.61 319 | 310 | 1.38 681 | 9.99 963 | 39 | 7 238 234.5 231 227.5 |
| 22 | 8.61 589 | 307 | 8.61 626 | 307 | 1.38 374 | 9.99 963 | 38 | 8 272 268.0 264 260.0 |
| 23 | 8.61 894 | 305 | 8.61 931 | 305 | 1.38 069 | 9.99 962 | 37 | 9 306 301.5 297 292.5 |
| 24 | 8.62 196 | 302 | 8.62 234 | 303 | 1.37 766 | 9.99 962 | 36 | 320 315 310 305 |
| 25 | 8.62 497 | 301 | 8.62 535 | 301 | 1.37 465 | 9.99 961 | 35 | 2 64 63.0 62 61.0 |
| 26 | 8.62 795 | 298 | 8.62 834 | 299 | 1.37 166 | 9.99 961 | 34 | 3 96 94.5 93 91.5 |
| 27 | 8.63 091 | 296 | 8.63 131 | 297 | 1.36 869 | 9.99 960 | 33 | 4 128 126.0 124 122.0 |
| 28 | 8.63 385 | 294 | 8.63 426 | 295 | 1.36 574 | 9.99 960 | 32 | 5 160 157.5 155 152.5 |
| 29 | 8.63 678 | 293 | 8.63 718 | 292 | 1.36 282 | 9.99 959 | 31 | 6 192 189.0 186 183.0 |
| 30 | 8.63 968 | 290 | 8.64 009 | 291 | 1.35 991 | 9.99 959 | 30 | 7 224 220.5 217 213.5 |
| 31 | 8.64 256 | 288 | 8.64 298 | 289 | 1.35 702 | 9.99 958 | 29 | 8 256 252.0 248 244.0 |
| 32 | 8.64 543 | 287 | 8.64 585 | 287 | 1.35 415 | 9.99 958 | 28 | 9 288 283.5 279 274.5 |
| 33 | 8.64 827 | 284 | 8.64 870 | 285 | 1.35 130 | 9.99 957 | 27 | 300 295 290 285 |
| 34 | 8.65 110 | 283 | 8.65 154 | 284 | 1.34 846 | 9.99 956 | 26 | 2 60 59.0 58 57.0 |
| 35 | 8.65 391 | 281 | 8.65 435 | 281 | 1.34 565 | 9.99 956 | 25 | 3 90 88.5 87 85.5 |
| 36 | 8.65 670 | 279 | 8.65 715 | 280 | 1.34 285 | 9.99 955 | 24 | 4 120 118.0 116 114.0 |
| 37 | 8.65 947 | 277 | 8.65 993 | 278 | 1.34 007 | 9.99 955 | 23 | 5 150 147.5 145 142.5 |
| 38 | 8.66 223 | 276 | 8.66 269 | 276 | 1.33 731 | 9.99 954 | 22 | 6 180 177.0 174 171.0 |
| 39 | 8.66 497 | 274 | 8.66 543 | 274 | 1.33 457 | 9.99 954 | 21 | 7 210 206.5 203 199.5 |
| 40 | 8.66 769 | 272 | 8.66 816 | 273 | 1.33 184 | 9.99 953 | 20 | 8 240 236.0 232 228.0 |
| 41 | 8.67 039 | 270 | 8.67 087 | 271 | 1.32 913 | 9.99 952 | 19 | 9 270 265.5 261 256.5 |
| 42 | 8.67 308 | 269 | 8.67 356 | 269 | 1.32 644 | 9.99 952 | 18 | 280 275 270 265 |
| 43 | 8.67 575 | 267 | 8.67 624 | 268 | 1.32 376 | 9.99 951 | 17 | 2 56 55.0 54 53.0 |
| 44 | 8.67 841 | 266 | 8.67 890 | 266 | 1.32 110 | 9.99 951 | 16 | 3 84 82.5 81 79.5 |
| 45 | 8.68 104 | 263 | 8.68 154 | 264 | 1.31 846 | 9.99 950 | 15 | 4 112 110.0 108 106.0 |
| 46 | 8.68 367 | 263 | 8.68 417 | 263 | 1.31 583 | 9.99 949 | 14 | 5 140 137.5 135 132.5 |
| 47 | 8.68 627 | 260 | 8.68 678 | 261 | 1.31 322 | 9.99 949 | 13 | 6 168 165.0 162 159.0 |
| 48 | 8.68 886 | 258 | 8.68 938 | 260 | 1.31 062 | 9.99 948 | 12 | 7 196 192.5 189 185.5 |
| 49 | 8.69 144 | 256 | 8.69 196 | 258 | 1.30 804 | 9.99 948 | 11 | 8 224 220.0 216 212.0 |
| 50 | 8.69 400 | 254 | 8.69 453 | 257 | 1.30 547 | 9.99 947 | 10 | 9 252 247.5 243 238.5 |
| 51 | 8.69 654 | 253 | 8.69 708 | 255 | 1.30 292 | 9.99 946 | 9 | 260 255 250 245 |
| 52 | 8.69 907 | 252 | 8.69 962 | 254 | 1.30 038 | 9.99 946 | 8 | 2 52 51.0 50 49.0 |
| 53 | 8.70 159 | 250 | 8.70 214 | 252 | 1.29 786 | 9.99 945 | 7 | 3 78 76.5 75 73.5 |
| 54 | 8.70 409 | 249 | 8.70 465 | 251 | 1.29 535 | 9.99 944 | 6 | 4 104 102.0 100 98.0 |
| 55 | 8.70 658 | 247 | 8.70 714 | 249 | 1.29 286 | 9.99 944 | 5 | 5 130 127.5 125 122.5 |
| 56 | 8.70 905 | 246 | 8.70 962 | 248 | 1.29 038 | 9.99 943 | 4 | 6 156 153.0 150 147.0 |
| 57 | 8.71 151 | 244 | 8.71 208 | 246 | 1.28 792 | 9.99 943 | 3 | 7 182 178.5 175 171.5 |
| 58 | 8.71 395 | 243 | 8.71 453 | 244 | 1.28 547 | 9.99 942 | 2 | 8 208 204.0 200 196.0 |
| 59 | 8.71 638 | 242 | 8.71 697 | 243 | 1.28 303 | 9.99 941 | 1 | 9 234 229.5 225 220.5 |
| 60 | 8.71 880 | | 8.71 940 | | 1.28 060 | 9.99 940 | 0 | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | ' | Prop. Pts. |

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | | Prop. Pts. | | | |
|-----------|----------|-----|----------|-----|----------|----------|-----------|------------|------------|------------|------------|
| 0 | 8.71 880 | | 8.71 940 | | 1.28 060 | 9.99 940 | 60 | | | | |
| 1 | 8.72 120 | 240 | 8.72 181 | 241 | 1.27 819 | 9.99 940 | 59 | 241 | 239 | 237 | 235 |
| 2 | 8.72 359 | 239 | 8.72 420 | 239 | 1.27 580 | 9.99 939 | 58 | 2 | 48.2 | 47.8 | 47.4 |
| 3 | 8.72 597 | 238 | 8.72 659 | 239 | 1.27 341 | 9.99 938 | 57 | 3 | 72.3 | 71.7 | 71.1 |
| 4 | 8.72 834 | 237 | 8.72 896 | 237 | 1.27 104 | 9.99 938 | 56 | 4 | 96.4 | 95.6 | 94.8 |
| 5 | 8.73 069 | 235 | 8.73 132 | 236 | 1.26 868 | 9.99 937 | 55 | 5 | 120.5 | 119.5 | 118.5 |
| 6 | 8.73 303 | 234 | 8.73 366 | 234 | 1.26 634 | 9.99 936 | 54 | 6 | 144.6 | 143.4 | 142.2 |
| 7 | 8.73 535 | 232 | 8.73 600 | 232 | 1.26 400 | 9.99 936 | 53 | 7 | 168.7 | 167.3 | 165.9 |
| 8 | 8.73 767 | 232 | 8.73 832 | 232 | 1.26 168 | 9.99 935 | 52 | 8 | 192.8 | 191.2 | 189.6 |
| 9 | 8.73 997 | 230 | 8.74 063 | 231 | 1.25 937 | 9.99 934 | 51 | 9 | 216.9 | 215.1 | 213.3 |
| 10 | 8.74 226 | 229 | 8.74 292 | 229 | 1.25 708 | 9.99 934 | 50 | | | | |
| 11 | 8.74 454 | 228 | 8.74 521 | 229 | 1.25 479 | 9.99 933 | 49 | 234 | 232 | 229 | 227 |
| 12 | 8.74 680 | 226 | 8.74 748 | 227 | 1.25 252 | 9.99 932 | 48 | 2 | 46.8 | 46.4 | 45.8 |
| 13 | 8.74 906 | 226 | 8.74 974 | 226 | 1.25 026 | 9.99 932 | 47 | 3 | 70.2 | 69.6 | 68.7 |
| 14 | 8.75 130 | 224 | 8.75 199 | 225 | 1.24 801 | 9.99 931 | 46 | 4 | 93.6 | 92.8 | 91.6 |
| 15 | 8.75 353 | 222 | 8.75 423 | 222 | 1.24 577 | 9.99 930 | 45 | 5 | 117.0 | 116.0 | 114.5 |
| 16 | 8.75 575 | 220 | 8.75 645 | 222 | 1.24 355 | 9.99 929 | 44 | 6 | 140.4 | 139.2 | 137.4 |
| 17 | 8.75 795 | 220 | 8.75 867 | 220 | 1.24 133 | 9.99 929 | 43 | 7 | 163.8 | 162.4 | 160.3 |
| 18 | 8.76 015 | 219 | 8.76 087 | 219 | 1.23 913 | 9.99 928 | 42 | 8 | 187.2 | 185.6 | 183.2 |
| 19 | 8.76 234 | 217 | 8.76 306 | 219 | 1.23 694 | 9.99 927 | 41 | 9 | 210.6 | 208.8 | 206.1 |
| 20 | 8.76 451 | 216 | 8.76 525 | 217 | 1.23 475 | 9.99 926 | 40 | | | | |
| 21 | 8.76 667 | 216 | 8.76 742 | 216 | 1.23 258 | 9.99 926 | 39 | 226 | 224 | 222 | 220 |
| 22 | 8.76 883 | 214 | 8.76 958 | 215 | 1.23 042 | 9.99 925 | 38 | 2 | 45.2 | 44.8 | 44.4 |
| 23 | 8.77 097 | 213 | 8.77 173 | 214 | 1.22 827 | 9.99 924 | 37 | 3 | 67.8 | 67.2 | 66.6 |
| 24 | 8.77 310 | 212 | 8.77 387 | 213 | 1.22 613 | 9.99 923 | 36 | 4 | 90.4 | 89.6 | 88.8 |
| 25 | 8.77 522 | 211 | 8.77 600 | 211 | 1.22 400 | 9.99 923 | 35 | 5 | 113.0 | 112.0 | 111.0 |
| 26 | 8.77 733 | 210 | 8.77 811 | 211 | 1.22 189 | 9.99 922 | 34 | 6 | 135.6 | 134.4 | 133.2 |
| 27 | 8.77 943 | 209 | 8.78 022 | 210 | 1.21 978 | 9.99 921 | 33 | 7 | 158.2 | 156.8 | 155.4 |
| 28 | 8.78 152 | 208 | 8.78 232 | 209 | 1.21 768 | 9.99 920 | 32 | 8 | 180.8 | 179.2 | 177.6 |
| 29 | 8.78 360 | 208 | 8.78 441 | 208 | 1.21 559 | 9.99 920 | 31 | 9 | 203.4 | 201.6 | 199.8 |
| 30 | 8.78 568 | 206 | 8.78 649 | 206 | 1.21 351 | 9.99 919 | 30 | | | | |
| 31 | 8.78 774 | 205 | 8.78 855 | 206 | 1.21 145 | 9.99 918 | 29 | 219 | 217 | 215 | 213 |
| 32 | 8.78 979 | 204 | 8.79 061 | 205 | 1.20 939 | 9.99 917 | 28 | 2 | 43.8 | 43.4 | 43.0 |
| 33 | 8.79 183 | 203 | 8.79 266 | 204 | 1.20 734 | 9.99 917 | 27 | 3 | 65.7 | 65.1 | 64.5 |
| 34 | 8.79 386 | 202 | 8.79 470 | 203 | 1.20 530 | 9.99 916 | 26 | 4 | 87.6 | 86.8 | 86.0 |
| 35 | 8.79 588 | 201 | 8.79 673 | 202 | 1.20 327 | 9.99 915 | 25 | 5 | 109.5 | 108.5 | 107.5 |
| 36 | 8.79 789 | 201 | 8.79 875 | 201 | 1.20 125 | 9.99 914 | 24 | 6 | 131.4 | 130.2 | 129.0 |
| 37 | 8.79 990 | 199 | 8.80 076 | 201 | 1.19 924 | 9.99 913 | 23 | 7 | 153.3 | 151.9 | 150.5 |
| 38 | 8.80 189 | 199 | 8.80 277 | 199 | 1.19 723 | 9.99 913 | 22 | 8 | 175.2 | 173.6 | 172.0 |
| 39 | 8.80 388 | 197 | 8.80 476 | 198 | 1.19 524 | 9.99 912 | 21 | 9 | 197.1 | 195.3 | 193.5 |
| 40 | 8.80 585 | 197 | 8.80 674 | 198 | 1.19 326 | 9.99 911 | 20 | | | | |
| 41 | 8.80 782 | 196 | 8.80 872 | 196 | 1.19 128 | 9.99 910 | 19 | 211 | 208 | 206 | 203 |
| 42 | 8.80 978 | 195 | 8.81 068 | 196 | 1.18 932 | 9.99 909 | 18 | 2 | 42.2 | 41.6 | 41.2 |
| 43 | 8.81 173 | 194 | 8.81 264 | 195 | 1.18 736 | 9.99 909 | 17 | 3 | 63.3 | 62.4 | 61.8 |
| 44 | 8.81 367 | 193 | 8.81 459 | 194 | 1.18 541 | 9.99 908 | 16 | 4 | 84.4 | 83.2 | 82.4 |
| 45 | 8.81 560 | 192 | 8.81 653 | 193 | 1.18 347 | 9.99 907 | 15 | 5 | 105.5 | 104.0 | 103.0 |
| 46 | 8.81 752 | 192 | 8.81 846 | 192 | 1.18 154 | 9.99 906 | 14 | 6 | 126.6 | 124.8 | 123.6 |
| 47 | 8.81 944 | 190 | 8.82 038 | 192 | 1.17 962 | 9.99 905 | 13 | 7 | 147.7 | 145.6 | 144.2 |
| 48 | 8.82 134 | 190 | 8.82 230 | 190 | 1.17 770 | 9.99 904 | 12 | 8 | 168.8 | 166.4 | 164.8 |
| 49 | 8.82 324 | 189 | 8.82 420 | 190 | 1.17 580 | 9.99 904 | 11 | 9 | 189.9 | 187.2 | 185.4 |
| 50 | 8.82 513 | 188 | 8.82 610 | 189 | 1.17 390 | 9.99 903 | 10 | | | | |
| 51 | 8.82 701 | 187 | 8.82 799 | 188 | 1.17 201 | 9.99 902 | 9 | 201 | 199 | 197 | 195 |
| 52 | 8.82 888 | 187 | 8.82 987 | 188 | 1.17 013 | 9.99 901 | 8 | 2 | 40.2 | 39.8 | 39.4 |
| 53 | 8.83 075 | 186 | 8.83 175 | 186 | 1.16 825 | 9.99 900 | 7 | 3 | 60.3 | 59.7 | 59.1 |
| 54 | 8.83 261 | 185 | 8.83 361 | 186 | 1.16 639 | 9.99 899 | 6 | 4 | 80.4 | 79.6 | 78.8 |
| 55 | 8.83 446 | 184 | 8.83 547 | 185 | 1.16 453 | 9.99 898 | 5 | 5 | 100.5 | 99.5 | 98.5 |
| 56 | 8.83 630 | 183 | 8.83 732 | 184 | 1.16 268 | 9.99 898 | 4 | 6 | 120.6 | 119.4 | 118.2 |
| 57 | 8.83 813 | 183 | 8.83 916 | 184 | 1.16 084 | 9.99 897 | 3 | 7 | 140.7 | 139.3 | 137.9 |
| 58 | 8.83 996 | 181 | 8.84 100 | 182 | 1.15 900 | 9.99 896 | 2 | 8 | 160.8 | 159.2 | 157.6 |
| 59 | 8.84 177 | 181 | 8.84 282 | 182 | 1.15 718 | 9.99 895 | 1 | 9 | 180.9 | 179.1 | 177.3 |
| 60 | 8.84 358 | | 8.84 464 | | 1.15 536 | 9.99 894 | 0 | | | | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | ' | Prop. Pts. | | | |

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | | Prop. Pts. | | | |
|-----------|----------|-----|----------|-----|----------|----------|-----------|------------|------------|------------|------------|
| 0 | 8.84 358 | | 8.84 464 | | 1.15 536 | 9.99 894 | 60 | | | | |
| 1 | 8.84 539 | 181 | 8.84 646 | 182 | 1.15 554 | 9.99 893 | 59 | 182 | 181 | 180 | 179 |
| 2 | 8.84 718 | 179 | 8.84 826 | 180 | 1.15 574 | 9.99 892 | 58 | 2 36.4 | 36.2 | 36.0 | 35.8 |
| 3 | 8.84 897 | 178 | 8.85 006 | 180 | 1.14 994 | 9.99 891 | 57 | 3 54.6 | 54.3 | 54.0 | 53.7 |
| 4 | 8.85 075 | 178 | 8.85 185 | 179 | 1.14 815 | 9.99 891 | 56 | 4 72.8 | 72.4 | 72.0 | 71.6 |
| 5 | 8.85 252 | 177 | 8.85 363 | 178 | 1.14 637 | 9.99 890 | 55 | 5 91.0 | 90.5 | 90.0 | 89.5 |
| 6 | 8.85 429 | 177 | 8.85 540 | 177 | 1.14 460 | 9.99 889 | 54 | 6 109.2 | 108.6 | 108.0 | 107.4 |
| 7 | 8.85 605 | 176 | 8.85 717 | 177 | 1.14 283 | 9.99 888 | 53 | 7 127.4 | 126.7 | 126.0 | 125.3 |
| 8 | 8.85 780 | 175 | 8.85 893 | 176 | 1.14 107 | 9.99 887 | 52 | 8 145.6 | 144.8 | 144.0 | 143.2 |
| 9 | 8.85 955 | 175 | 8.86 069 | 176 | 1.13 931 | 9.99 886 | 51 | 9 163.8 | 162.9 | 162.0 | 161.1 |
| 10 | 8.86 128 | 173 | 8.86 243 | 174 | 1.13 757 | 9.99 885 | 50 | | | | |
| 11 | 8.86 301 | 173 | 8.86 417 | 174 | 1.13 583 | 9.99 884 | 49 | 2 178 | 177 | 176 | 175 |
| 12 | 8.86 474 | 173 | 8.86 591 | 174 | 1.13 409 | 9.99 883 | 48 | 3 35.6 | 35.4 | 35.2 | 35.0 |
| 13 | 8.86 645 | 171 | 8.86 763 | 172 | 1.13 237 | 9.99 882 | 47 | 4 53.4 | 53.1 | 52.8 | 52.5 |
| 14 | 8.86 816 | 171 | 8.86 935 | 171 | 1.13 065 | 9.99 881 | 46 | 5 71.2 | 70.8 | 70.4 | 70.0 |
| 15 | 8.86 987 | 169 | 8.87 106 | 171 | 1.12 894 | 9.99 880 | 45 | 6 89.0 | 88.5 | 88.0 | 87.5 |
| 16 | 8.87 156 | 169 | 8.87 277 | 170 | 1.12 723 | 9.99 879 | 44 | 7 106.8 | 106.2 | 105.6 | 105.0 |
| 17 | 8.87 325 | 169 | 8.87 447 | 169 | 1.12 553 | 9.99 879 | 43 | 8 124.6 | 123.9 | 123.2 | 122.5 |
| 18 | 8.87 494 | 167 | 8.87 616 | 169 | 1.12 384 | 9.99 878 | 42 | 9 142.4 | 141.6 | 140.8 | 140.0 |
| 19 | 8.87 661 | 168 | 8.87 785 | 168 | 1.12 215 | 9.99 877 | 41 | 2 160.2 | 159.3 | 158.4 | 157.5 |
| 20 | 8.87 829 | 166 | 8.87 953 | 167 | 1.12 047 | 9.99 876 | 40 | | | | |
| 21 | 8.87 995 | 166 | 8.88 120 | 167 | 1.11 880 | 9.99 875 | 39 | 3 174 | 173 | 172 | 171 |
| 22 | 8.88 161 | 166 | 8.88 287 | 167 | 1.11 713 | 9.99 874 | 38 | 4 34.8 | 34.6 | 34.4 | 34.2 |
| 23 | 8.88 326 | 165 | 8.88 453 | 166 | 1.11 547 | 9.99 873 | 37 | 5 52.2 | 51.9 | 51.6 | 51.3 |
| 24 | 8.88 490 | 164 | 8.88 618 | 165 | 1.11 382 | 9.99 872 | 36 | 6 69.6 | 69.2 | 68.8 | 68.4 |
| 25 | 8.88 654 | 163 | 8.88 783 | 165 | 1.11 217 | 9.99 871 | 35 | 7 87.0 | 86.5 | 86.0 | 85.5 |
| 26 | 8.88 817 | 163 | 8.88 948 | 163 | 1.11 052 | 9.99 870 | 34 | 8 104.4 | 103.8 | 103.2 | 102.6 |
| 27 | 8.88 980 | 162 | 8.89 111 | 163 | 1.10 889 | 9.99 869 | 33 | 9 121.8 | 121.1 | 120.4 | 119.7 |
| 28 | 8.89 142 | 162 | 8.89 274 | 163 | 1.10 726 | 9.99 868 | 32 | 2 139.2 | 138.4 | 137.6 | 136.8 |
| 29 | 8.89 304 | 160 | 8.89 437 | 161 | 1.10 563 | 9.99 867 | 31 | 3 156.6 | 155.7 | 154.8 | 153.9 |
| 30 | 8.89 464 | 161 | 8.89 598 | 162 | 1.10 402 | 9.99 866 | 30 | | | | |
| 31 | 8.89 625 | 159 | 8.89 760 | 160 | 1.10 240 | 9.99 865 | 29 | 4 170 | 169 | 168 | 167 |
| 32 | 8.89 784 | 159 | 8.89 920 | 160 | 1.10 080 | 9.99 864 | 28 | 5 34.0 | 33.8 | 33.6 | 33.4 |
| 33 | 8.89 943 | 159 | 8.90 080 | 160 | 1.09 920 | 9.99 863 | 27 | 6 51.0 | 50.7 | 50.4 | 50.1 |
| 34 | 8.90 102 | 158 | 8.90 240 | 159 | 1.09 760 | 9.99 862 | 26 | 7 68.0 | 67.6 | 67.2 | 66.8 |
| 35 | 8.90 260 | 157 | 8.90 399 | 158 | 1.09 601 | 9.99 861 | 25 | 8 85.0 | 84.5 | 84.0 | 83.5 |
| 36 | 8.90 417 | 157 | 8.90 557 | 158 | 1.09 443 | 9.99 860 | 24 | 9 102.0 | 101.4 | 100.8 | 100.2 |
| 37 | 8.90 574 | 156 | 8.90 715 | 157 | 1.09 285 | 9.99 859 | 23 | 2 119.0 | 118.3 | 117.6 | 116.9 |
| 38 | 8.90 730 | 155 | 8.90 872 | 157 | 1.09 128 | 9.99 858 | 22 | 3 136.0 | 135.2 | 134.4 | 133.6 |
| 39 | 8.90 885 | 155 | 8.91 029 | 156 | 1.08 971 | 9.99 857 | 21 | 4 153.0 | 152.1 | 151.2 | 150.3 |
| 40 | 8.91 040 | 155 | 8.91 185 | 155 | 1.08 815 | 9.99 856 | 20 | | | | |
| 41 | 8.91 195 | 154 | 8.91 340 | 155 | 1.08 660 | 9.99 855 | 19 | 5 166 | 165 | 164 | 163 |
| 42 | 8.91 349 | 153 | 8.91 495 | 155 | 1.08 505 | 9.99 854 | 18 | 6 33.2 | 33.0 | 32.8 | 32.6 |
| 43 | 8.91 502 | 153 | 8.91 650 | 153 | 1.08 350 | 9.99 853 | 17 | 7 49.8 | 49.5 | 49.2 | 48.9 |
| 44 | 8.91 655 | 152 | 8.91 803 | 154 | 1.08 197 | 9.99 852 | 16 | 8 66.4 | 66.0 | 65.6 | 65.2 |
| 45 | 8.91 807 | 152 | 8.91 957 | 153 | 1.08 043 | 9.99 851 | 15 | 9 83.0 | 82.5 | 82.0 | 81.5 |
| 46 | 8.91 959 | 151 | 8.92 110 | 152 | 1.07 890 | 9.99 850 | 14 | 2 99.6 | 99.0 | 98.4 | 97.8 |
| 47 | 8.92 110 | 151 | 8.92 262 | 152 | 1.07 738 | 9.99 848 | 13 | 3 116.2 | 115.5 | 114.8 | 114.1 |
| 48 | 8.92 261 | 150 | 8.92 414 | 151 | 1.07 586 | 9.99 847 | 12 | 4 132.8 | 132.0 | 131.2 | 130.4 |
| 49 | 8.92 411 | 150 | 8.92 565 | 151 | 1.07 435 | 9.99 846 | 11 | 5 149.4 | 148.5 | 147.6 | 146.7 |
| 50 | 8.92 561 | 149 | 8.92 716 | 150 | 1.07 284 | 9.99 845 | 10 | | | | |
| 51 | 8.92 710 | 149 | 8.92 866 | 150 | 1.07 134 | 9.99 844 | 9 | 6 162 | 161 | 160 | 159 |
| 52 | 8.92 859 | 148 | 8.93 016 | 149 | 1.06 984 | 9.99 843 | 8 | 7 32.4 | 32.2 | 32.0 | 31.8 |
| 53 | 8.93 007 | 147 | 8.93 165 | 148 | 1.06 835 | 9.99 842 | 7 | 8 48.6 | 48.3 | 48.0 | 47.7 |
| 54 | 8.93 154 | 147 | 8.93 313 | 149 | 1.06 687 | 9.99 841 | 6 | 9 64.8 | 64.4 | 64.0 | 63.6 |
| 55 | 8.93 301 | 147 | 8.93 462 | 147 | 1.06 538 | 9.99 840 | 5 | 2 81.0 | 80.5 | 80.0 | 79.5 |
| 56 | 8.93 448 | 146 | 8.93 609 | 147 | 1.06 391 | 9.99 839 | 4 | 3 97.2 | 96.6 | 96.0 | 95.4 |
| 57 | 8.93 594 | 146 | 8.93 756 | 147 | 1.06 244 | 9.99 838 | 3 | 4 113.4 | 112.7 | 112.0 | 111.3 |
| 58 | 8.93 740 | 145 | 8.93 903 | 146 | 1.06 097 | 9.99 837 | 2 | 5 129.6 | 128.8 | 128.0 | 127.2 |
| 59 | 8.93 885 | 145 | 8.94 049 | 146 | 1.05 951 | 9.99 836 | 1 | 6 145.8 | 144.9 | 144.0 | 143.1 |
| 60 | 8.94 030 | | 8.94 195 | | 1.05 805 | 9.99 834 | 0 | | | | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | ' | Prop. Pts. | | | |

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | | Prop. Pts. | | | |
|----|----------|-----|----------|-----|----------|----------|----|------------|-------|-------|-------|
| 0 | 8.94 030 | | 8.94 195 | | 1.05 805 | 9.99 834 | 60 | | | | |
| 1 | 8.94 174 | 144 | 8.94 340 | 145 | 1.05 660 | 9.99 833 | 59 | 150 | 149 | 148 | 147 |
| 2 | 8.94 317 | 143 | 8.94 485 | 145 | 1.05 515 | 9.99 832 | 58 | 2 30.0 | 29.8 | 29.6 | 29.4 |
| 3 | 8.94 461 | 144 | 8.94 630 | 145 | 1.05 370 | 9.99 831 | 57 | 3 45.0 | 44.7 | 44.4 | 44.1 |
| 4 | 8.94 603 | 142 | 8.94 773 | 143 | 1.05 227 | 9.99 830 | 56 | 4 60.0 | 59.6 | 59.2 | 58.8 |
| 5 | 8.94 746 | 143 | 8.94 917 | 144 | 1.05 083 | 9.99 829 | 55 | 5 75.0 | 74.5 | 74.0 | 73.5 |
| 6 | 8.94 887 | 141 | 8.95 060 | 143 | 1.04 940 | 9.99 828 | 54 | 6 90.0 | 89.4 | 88.8 | 88.2 |
| 7 | 8.95 029 | 142 | 8.95 202 | 142 | 1.04 798 | 9.99 827 | 53 | 7 105.0 | 104.3 | 103.6 | 102.9 |
| 8 | 8.95 170 | 141 | 8.95 344 | 142 | 1.04 656 | 9.99 825 | 52 | 8 120.0 | 119.2 | 118.4 | 117.6 |
| 9 | 8.95 310 | 140 | 8.95 486 | 142 | 1.04 514 | 9.99 824 | 51 | 9 135.0 | 134.1 | 133.2 | 132.3 |
| 10 | 8.95 450 | 139 | 8.95 627 | 141 | 1.04 373 | 9.99 823 | | 146 | 145 | 144 | 143 |
| 11 | 8.95 589 | 139 | 8.95 767 | 140 | 1.04 233 | 9.99 822 | 50 | 2 29.2 | 29.0 | 28.8 | 28.6 |
| 12 | 8.95 728 | 139 | 8.95 908 | 141 | 1.04 092 | 9.99 821 | 49 | 3 43.8 | 43.5 | 43.2 | 42.9 |
| 13 | 8.95 867 | 139 | 8.96 047 | 139 | 1.03 953 | 9.99 820 | 48 | 4 58.4 | 58.0 | 57.6 | 57.2 |
| 14 | 8.96 005 | 138 | 8.96 187 | 140 | 1.03 813 | 9.99 819 | 47 | 5 73.0 | 72.5 | 72.0 | 71.5 |
| 15 | 8.96 143 | 138 | 8.96 325 | 138 | 1.03 675 | 9.99 817 | 46 | 6 87.6 | 87.0 | 86.4 | 85.8 |
| 16 | 8.96 280 | 137 | 8.96 464 | 139 | 1.03 536 | 9.99 816 | 45 | 7 102.2 | 101.5 | 100.8 | 100.1 |
| 17 | 8.96 417 | 137 | 8.96 602 | 138 | 1.03 398 | 9.99 815 | 44 | 8 116.8 | 116.0 | 115.2 | 114.4 |
| 18 | 8.96 553 | 136 | 8.96 739 | 137 | 1.03 261 | 9.99 814 | 43 | 9 131.4 | 130.5 | 129.6 | 128.7 |
| 19 | 8.96 689 | 136 | 8.96 877 | 138 | 1.03 123 | 9.99 813 | 42 | 2 28.4 | 28.2 | 28.0 | 27.8 |
| 20 | 8.96 825 | 135 | 8.97 013 | 137 | 1.02 987 | 9.99 812 | 41 | 3 42.6 | 42.3 | 42.0 | 41.7 |
| 21 | 8.96 960 | 135 | 8.97 150 | 135 | 1.02 850 | 9.99 810 | 40 | 4 56.8 | 56.4 | 56.0 | 55.6 |
| 22 | 8.97 095 | 134 | 8.97 285 | 136 | 1.02 715 | 9.99 809 | 39 | 5 71.0 | 70.5 | 70.0 | 69.5 |
| 23 | 8.97 229 | 134 | 8.97 421 | 135 | 1.02 579 | 9.99 808 | 38 | 6 85.2 | 84.6 | 84.0 | 83.4 |
| 24 | 8.97 363 | 133 | 8.97 556 | 135 | 1.02 444 | 9.99 807 | 37 | 7 99.4 | 98.7 | 98.0 | 97.3 |
| 25 | 8.97 496 | 133 | 8.97 691 | 134 | 1.02 309 | 9.99 806 | 36 | 8 113.6 | 112.8 | 112.0 | 111.2 |
| 26 | 8.97 629 | 133 | 8.97 825 | 134 | 1.02 175 | 9.99 804 | 35 | 9 127.8 | 126.9 | 126.0 | 125.1 |
| 27 | 8.97 762 | 133 | 8.97 959 | 134 | 1.02 041 | 9.99 803 | 34 | 2 27.6 | 27.4 | 27.2 | 27.0 |
| 28 | 8.97 894 | 132 | 8.98 092 | 133 | 1.01 908 | 9.99 802 | 33 | 3 41.4 | 41.1 | 40.8 | 40.5 |
| 29 | 8.98 026 | 131 | 8.98 225 | 133 | 1.01 775 | 9.99 801 | 32 | 4 55.2 | 54.8 | 54.4 | 54.0 |
| 30 | 8.98 157 | 131 | 8.98 358 | 132 | 1.01 642 | 9.99 800 | 31 | 5 69.0 | 68.5 | 68.0 | 67.5 |
| 31 | 8.98 288 | 131 | 8.98 490 | 132 | 1.01 510 | 9.99 798 | 30 | 6 82.8 | 82.2 | 81.6 | 81.0 |
| 32 | 8.98 419 | 130 | 8.98 622 | 131 | 1.01 378 | 9.99 797 | 29 | 7 96.6 | 95.9 | 95.2 | 94.5 |
| 33 | 8.98 549 | 130 | 8.98 753 | 131 | 1.01 247 | 9.99 796 | 28 | 8 110.4 | 109.6 | 108.8 | 108.0 |
| 34 | 8.98 679 | 129 | 8.98 884 | 131 | 1.01 116 | 9.99 795 | 27 | 9 124.2 | 123.3 | 122.4 | 121.5 |
| 35 | 8.98 808 | 129 | 8.99 015 | 130 | 1.00 985 | 9.99 793 | 26 | 2 26.8 | 26.6 | 26.4 | 26.2 |
| 36 | 8.98 937 | 129 | 8.99 145 | 130 | 1.00 855 | 9.99 792 | 25 | 3 40.2 | 39.9 | 39.6 | 39.3 |
| 37 | 8.99 066 | 128 | 8.99 275 | 130 | 1.00 725 | 9.99 791 | 24 | 4 53.6 | 53.2 | 52.8 | 52.4 |
| 38 | 8.99 194 | 128 | 8.99 405 | 129 | 1.00 595 | 9.99 790 | 23 | 5 67.0 | 66.5 | 66.0 | 65.5 |
| 39 | 8.99 322 | 128 | 8.99 534 | 128 | 1.00 466 | 9.99 788 | 22 | 6 80.4 | 79.8 | 79.2 | 78.6 |
| 40 | 8.99 450 | 127 | 8.99 662 | 129 | 1.00 338 | 9.99 787 | 21 | 7 93.8 | 93.1 | 92.4 | 91.7 |
| 41 | 8.99 577 | 127 | 8.99 791 | 128 | 1.00 209 | 9.99 786 | 20 | 8 107.2 | 106.4 | 105.6 | 104.8 |
| 42 | 8.99 704 | 126 | 8.99 919 | 127 | 1.00 081 | 9.99 785 | 19 | 9 120.6 | 119.7 | 118.8 | 117.9 |
| 43 | 8.99 830 | 126 | 9.00 046 | 128 | 0.99 954 | 9.99 783 | 18 | 2 26.0 | 25.8 | 25.6 | 25.4 |
| 44 | 8.99 956 | 126 | 9.00 174 | 127 | 0.99 826 | 9.99 782 | 17 | 3 39.0 | 38.7 | 38.4 | 38.1 |
| 45 | 9.00 082 | 125 | 9.00 301 | 126 | 0.99 699 | 9.99 781 | 16 | 4 52.0 | 51.6 | 51.2 | 50.8 |
| 46 | 9.00 207 | 125 | 9.00 427 | 126 | 0.99 573 | 9.99 780 | 15 | 5 65.0 | 64.5 | 64.0 | 63.5 |
| 47 | 9.00 332 | 124 | 9.00 553 | 125 | 0.99 447 | 9.99 778 | 14 | 6 78.0 | 77.4 | 76.8 | 76.2 |
| 48 | 9.00 456 | 125 | 9.00 679 | 126 | 0.99 321 | 9.99 777 | 13 | 7 91.0 | 90.3 | 89.6 | 88.9 |
| 49 | 9.00 581 | 123 | 9.00 805 | 125 | 0.99 195 | 9.99 776 | 12 | 8 104.0 | 103.2 | 102.4 | 101.6 |
| 50 | 9.00 704 | 124 | 9.00 930 | 125 | 0.99 070 | 9.99 775 | 11 | 9 117.0 | 116.1 | 115.2 | 114.3 |
| 51 | 9.00 828 | 123 | 9.01 055 | 124 | 0.98 945 | 9.99 773 | 10 | 2 25.2 | 25.0 | 24.8 | 24.6 |
| 52 | 9.00 951 | 123 | 9.01 179 | 124 | 0.98 821 | 9.99 772 | 9 | 3 37.8 | 37.5 | 37.2 | 36.9 |
| 53 | 9.01 074 | 122 | 9.01 303 | 124 | 0.98 697 | 9.99 771 | 8 | 4 50.4 | 50.0 | 49.6 | 49.2 |
| 54 | 9.01 196 | 122 | 9.01 427 | 123 | 0.98 573 | 9.99 769 | 7 | 5 63.0 | 62.5 | 62.0 | 61.5 |
| 55 | 9.01 318 | 122 | 9.01 550 | 123 | 0.98 450 | 9.99 768 | 6 | 6 75.6 | 75.0 | 74.4 | 73.8 |
| 56 | 9.01 440 | 121 | 9.01 673 | 123 | 0.98 327 | 9.99 767 | 5 | 7 88.2 | 87.5 | 86.8 | 86.1 |
| 57 | 9.01 561 | 121 | 9.01 796 | 122 | 0.98 204 | 9.99 765 | 4 | 8 100.8 | 100.0 | 99.2 | 98.4 |
| 58 | 9.01 682 | 121 | 9.01 918 | 122 | 0.98 082 | 9.99 764 | 3 | 9 113.4 | 112.5 | 111.6 | 110.7 |
| 59 | 9.01 803 | 120 | 9.02 040 | 122 | 0.97 960 | 9.99 763 | 2 | 2 24.4 | 24.2 | 24.0 | |
| 60 | 9.01 923 | | 9.02 162 | | 0.97 838 | 9.99 761 | 1 | 3 36.6 | 36.3 | 36.0 | |
| | | | | | | | 0 | 4 48.8 | 48.4 | 48.0 | |
| | | | | | | | | 5 61.0 | 60.5 | 60.0 | |
| | | | | | | | | 6 73.2 | 72.6 | 72.0 | |
| | | | | | | | | 7 85.4 | 84.7 | 84.0 | |
| | | | | | | | | 8 97.6 | 96.8 | 96.0 | |
| | | | | | | | | 9 109.8 | 108.9 | 108.0 | |
| ' | L Cos | d | L Ctn | c d | L Tan | L Sin | ' | Prop. Pts. | | | |

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | | Prop. Pts. |
|----|----------|-----|----------|-----|----------|----------|----|------------|
| 0 | 9.01 923 | | 9.02 162 | | 0.97 838 | 9.99 761 | 60 | |
| 1 | 9.02 043 | 120 | 9.02 283 | 121 | 0.97 717 | 9.99 760 | 59 | |
| 2 | 9.02 163 | 120 | 9.02 404 | 121 | 0.97 596 | 9.99 759 | 58 | |
| 3 | 9.02 283 | 120 | 9.02 525 | 121 | 0.97 475 | 9.99 757 | 57 | |
| 4 | 9.02 402 | 119 | 9.02 645 | 120 | 0.97 355 | 9.99 756 | 56 | |
| | | 118 | | 121 | | | | |
| 5 | 9.02 520 | | 9.02 766 | | 0.97 234 | 9.99 755 | 55 | |
| 6 | 9.02 639 | 119 | 9.02 885 | 119 | 0.97 115 | 9.99 753 | 54 | |
| 7 | 9.02 757 | 118 | 9.03 005 | 120 | 0.96 995 | 9.99 752 | 53 | |
| 8 | 9.02 874 | 117 | 9.03 124 | 119 | 0.96 876 | 9.99 751 | 52 | |
| 9 | 9.02 992 | 118 | 9.03 242 | 118 | 0.96 758 | 9.99 749 | 51 | |
| | | 117 | | 119 | | | | |
| 10 | 9.03 109 | | 9.03 361 | | 0.96 639 | 9.99 748 | 50 | |
| 11 | 9.03 226 | 117 | 9.03 479 | 118 | 0.96 521 | 9.99 747 | 49 | |
| 12 | 9.03 342 | 116 | 9.03 597 | 118 | 0.96 403 | 9.99 745 | 48 | |
| 13 | 9.03 458 | 116 | 9.03 714 | 117 | 0.96 286 | 9.99 744 | 47 | |
| 14 | 9.03 574 | 116 | 9.03 832 | 118 | 0.96 168 | 9.99 742 | 46 | |
| | | 116 | | 116 | | | | |
| 15 | 9.03 690 | | 9.03 948 | | 0.96 052 | 9.99 741 | 45 | |
| 16 | 9.03 805 | 115 | 9.04 065 | 117 | 0.95 935 | 9.99 740 | 44 | |
| 17 | 9.03 920 | 115 | 9.04 181 | 116 | 0.95 819 | 9.99 738 | 43 | |
| 18 | 9.04 034 | 114 | 9.04 297 | 116 | 0.95 703 | 9.99 737 | 42 | |
| 19 | 9.04 149 | 115 | 9.04 413 | 116 | 0.95 587 | 9.99 736 | 41 | |
| | | 113 | | 115 | | | | |
| 20 | 9.04 262 | | 9.04 528 | | 0.95 472 | 9.99 734 | 40 | |
| 21 | 9.04 376 | 114 | 9.04 643 | 115 | 0.95 357 | 9.99 733 | 39 | |
| 22 | 9.04 490 | 114 | 9.04 758 | 115 | 0.95 242 | 9.99 731 | 38 | |
| 23 | 9.04 603 | 113 | 9.04 873 | 115 | 0.95 127 | 9.99 730 | 37 | |
| 24 | 9.04 715 | 112 | 9.04 987 | 114 | 0.95 013 | 9.99 728 | 36 | |
| | | 113 | | 114 | | | | |
| 25 | 9.04 828 | | 9.05 101 | | 0.94 899 | 9.99 727 | 35 | |
| 26 | 9.04 940 | 112 | 9.05 214 | 113 | 0.94 786 | 9.99 726 | 34 | |
| 27 | 9.05 052 | 112 | 9.05 328 | 114 | 0.94 672 | 9.99 724 | 33 | |
| 28 | 9.05 164 | 112 | 9.05 441 | 113 | 0.94 559 | 9.99 723 | 32 | |
| 29 | 9.05 275 | 111 | 9.05 553 | 112 | 0.94 447 | 9.99 721 | 31 | |
| | | 111 | | 113 | | | | |
| 30 | 9.05 386 | | 9.05 666 | | 0.94 334 | 9.99 720 | 30 | |
| 31 | 9.05 497 | 111 | 9.05 778 | 112 | 0.94 222 | 9.99 718 | 29 | |
| 32 | 9.05 607 | 110 | 9.05 890 | 112 | 0.94 110 | 9.99 717 | 28 | |
| 33 | 9.05 717 | 110 | 9.06 002 | 112 | 0.93 998 | 9.99 716 | 27 | |
| 34 | 9.05 827 | 110 | 9.06 113 | 111 | 0.93 887 | 9.99 714 | 26 | |
| | | 110 | | 111 | | | | |
| 35 | 9.05 937 | | 9.06 224 | | 0.93 776 | 9.99 713 | 25 | |
| 36 | 9.06 046 | 109 | 9.06 335 | 111 | 0.93 665 | 9.99 711 | 24 | |
| 37 | 9.06 155 | 109 | 9.06 445 | 110 | 0.93 555 | 9.99 710 | 23 | |
| 38 | 9.06 264 | 109 | 9.06 556 | 111 | 0.93 444 | 9.99 708 | 22 | |
| 39 | 9.06 372 | 108 | 9.06 666 | 110 | 0.93 334 | 9.99 707 | 21 | |
| | | 109 | | 109 | | | | |
| 40 | 9.06 481 | | 9.06 775 | | 0.93 225 | 9.99 705 | 20 | |
| 41 | 9.06 589 | 108 | 9.06 885 | 110 | 0.93 115 | 9.99 704 | 19 | |
| 42 | 9.06 696 | 107 | 9.06 994 | 109 | 0.93 006 | 9.99 702 | 18 | |
| 43 | 9.06 804 | 108 | 9.07 103 | 109 | 0.92 897 | 9.99 701 | 17 | |
| 44 | 9.06 911 | 107 | 9.07 211 | 108 | 0.92 789 | 9.99 699 | 16 | |
| | | 107 | | 109 | | | | |
| 45 | 9.07 018 | | 9.07 320 | | 0.92 680 | 9.99 698 | 15 | |
| 46 | 9.07 124 | 106 | 9.07 428 | 108 | 0.92 572 | 9.99 696 | 14 | |
| 47 | 9.07 231 | 107 | 9.07 536 | 108 | 0.92 464 | 9.99 695 | 13 | |
| 48 | 9.07 337 | 106 | 9.07 643 | 107 | 0.92 357 | 9.99 693 | 12 | |
| 49 | 9.07 442 | 105 | 9.07 751 | 108 | 0.92 249 | 9.99 692 | 11 | |
| | | 106 | | 107 | | | | |
| 50 | 9.07 548 | | 9.07 858 | | 0.92 142 | 9.99 690 | 10 | |
| 51 | 9.07 653 | 105 | 9.07 964 | 106 | 0.92 036 | 9.99 689 | 9 | |
| 52 | 9.07 758 | 105 | 9.08 071 | 107 | 0.91 929 | 9.99 687 | 8 | |
| 53 | 9.07 863 | 105 | 9.08 177 | 106 | 0.91 823 | 9.99 686 | 7 | |
| 54 | 9.07 968 | 105 | 9.08 283 | 106 | 0.91 717 | 9.99 684 | 6 | |
| | | 104 | | 106 | | | | |
| 55 | 9.08 072 | | 9.08 389 | | 0.91 611 | 9.99 683 | 5 | |
| 56 | 9.08 176 | 104 | 9.08 495 | 106 | 0.91 505 | 9.99 681 | 4 | |
| 57 | 9.08 280 | 104 | 9.08 600 | 105 | 0.91 400 | 9.99 680 | 3 | |
| 58 | 9.08 383 | 103 | 9.08 705 | 105 | 0.91 295 | 9.99 678 | 2 | |
| 59 | 9.08 486 | 103 | 9.08 810 | 105 | 0.91 190 | 9.99 677 | 1 | |
| | | 103 | | 104 | | | | |
| 60 | 9.08 589 | | 9.08 914 | | 0.91 086 | 9.99 675 | 0 | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | ' | Prop. Pts. |

From the top:

For 6°+ or 186°+,
read as printed; for
96°+ or 276°+, read
co-function.

From the bottom:

For 83°+ or 263°+,
read as printed; for
173°+ or 353°+, read
co-function.

| ' | L Sin | d | L Tan | cd | L Ctn | L Cos | | Prop. Pts. | | | |
|----|----------|-----|----------|-----|----------|----------|----|------------|--|--|--|
| 0 | 9.08 589 | | 9.08 914 | | 0.91 086 | 9.99 675 | 60 | | | | |
| 1 | 9.08 692 | 103 | 9.09 019 | 105 | 0.90 981 | 9.99 674 | 59 | | | | |
| 2 | 9.08 795 | 103 | 9.09 123 | 104 | 0.90 877 | 9.99 672 | 58 | | | | |
| 3 | 9.08 897 | 102 | 9.09 227 | 104 | 0.90 773 | 9.99 670 | 57 | | | | |
| 4 | 9.08 999 | 102 | 9.09 330 | 103 | 0.90 670 | 9.99 669 | 56 | | | | |
| 5 | 9.09 101 | 102 | 9.09 434 | 104 | 0.90 566 | 9.99 667 | 55 | | | | |
| 6 | 9.09 202 | 101 | 9.09 537 | 103 | 0.90 463 | 9.99 666 | 54 | | | | |
| 7 | 9.09 304 | 102 | 9.09 640 | 103 | 0.90 360 | 9.99 664 | 53 | | | | |
| 8 | 9.09 405 | 101 | 9.09 742 | 102 | 0.90 258 | 9.99 663 | 52 | | | | |
| 9 | 9.09 506 | 101 | 9.09 845 | 103 | 0.90 155 | 9.99 661 | 51 | | | | |
| 10 | 9.09 606 | 100 | 9.09 947 | 102 | 0.90 053 | 9.99 659 | 50 | | | | |
| 11 | 9.09 707 | 101 | 9.10 049 | 102 | 0.89 951 | 9.99 658 | 49 | | | | |
| 12 | 9.09 807 | 100 | 9.10 150 | 101 | 0.89 850 | 9.99 656 | 48 | | | | |
| 13 | 9.09 907 | 100 | 9.10 252 | 102 | 0.89 748 | 9.99 655 | 47 | | | | |
| 14 | 9.10 006 | 99 | 9.10 353 | 101 | 0.89 647 | 9.99 653 | 46 | | | | |
| 15 | 9.10 106 | 100 | 9.10 454 | 101 | 0.89 546 | 9.99 651 | 45 | | | | |
| 16 | 9.10 205 | 99 | 9.10 555 | 101 | 0.89 445 | 9.99 650 | 44 | | | | |
| 17 | 9.10 304 | 99 | 9.10 656 | 101 | 0.89 344 | 9.99 648 | 43 | | | | |
| 18 | 9.10 402 | 98 | 9.10 756 | 100 | 0.89 244 | 9.99 647 | 42 | | | | |
| 19 | 9.10 501 | 99 | 9.10 856 | 100 | 0.89 144 | 9.99 645 | 41 | | | | |
| 20 | 9.10 599 | 98 | 9.10 956 | 100 | 0.89 044 | 9.99 643 | 40 | | | | |
| 21 | 9.10 697 | 98 | 9.11 056 | 99 | 0.88 944 | 9.99 642 | 39 | | | | |
| 22 | 9.10 795 | 98 | 9.11 155 | 99 | 0.88 845 | 9.99 640 | 38 | | | | |
| 23 | 9.10 893 | 98 | 9.11 254 | 99 | 0.88 746 | 9.99 638 | 37 | | | | |
| 24 | 9.10 990 | 97 | 9.11 353 | 99 | 0.88 647 | 9.99 637 | 36 | | | | |
| 25 | 9.11 087 | 97 | 9.11 452 | 99 | 0.88 548 | 9.99 635 | 35 | | | | |
| 26 | 9.11 184 | 97 | 9.11 551 | 99 | 0.88 449 | 9.99 633 | 34 | | | | |
| 27 | 9.11 281 | 97 | 9.11 649 | 98 | 0.88 351 | 9.99 632 | 33 | | | | |
| 28 | 9.11 377 | 96 | 9.11 747 | 98 | 0.88 253 | 9.99 630 | 32 | | | | |
| 29 | 9.11 474 | 97 | 9.11 845 | 98 | 0.88 155 | 9.99 629 | 31 | | | | |
| 30 | 9.11 570 | 96 | 9.11 943 | 98 | 0.88 057 | 9.99 627 | 30 | | | | |
| 31 | 9.11 666 | 95 | 9.12 040 | 97 | 0.87 960 | 9.99 625 | 29 | | | | |
| 32 | 9.11 761 | 95 | 9.12 138 | 98 | 0.87 862 | 9.99 624 | 28 | | | | |
| 33 | 9.11 857 | 96 | 9.12 235 | 97 | 0.87 765 | 9.99 622 | 27 | | | | |
| 34 | 9.11 952 | 95 | 9.12 332 | 97 | 0.87 668 | 9.99 620 | 26 | | | | |
| 35 | 9.12 047 | 95 | 9.12 428 | 96 | 0.87 572 | 9.99 618 | 25 | | | | |
| 36 | 9.12 142 | 95 | 9.12 525 | 97 | 0.87 475 | 9.99 617 | 24 | | | | |
| 37 | 9.12 236 | 94 | 9.12 621 | 96 | 0.87 379 | 9.99 615 | 23 | | | | |
| 38 | 9.12 331 | 95 | 9.12 717 | 96 | 0.87 283 | 9.99 613 | 22 | | | | |
| 39 | 9.12 425 | 94 | 9.12 813 | 96 | 0.87 187 | 9.99 612 | 21 | | | | |
| 40 | 9.12 519 | 94 | 9.12 909 | 96 | 0.87 091 | 9.99 610 | 20 | | | | |
| 41 | 9.12 612 | 93 | 9.13 004 | 95 | 0.86 996 | 9.99 608 | 19 | | | | |
| 42 | 9.12 706 | 94 | 9.13 099 | 95 | 0.86 901 | 9.99 607 | 18 | | | | |
| 43 | 9.12 799 | 93 | 9.13 194 | 95 | 0.86 806 | 9.99 605 | 17 | | | | |
| 44 | 9.12 892 | 93 | 9.13 289 | 95 | 0.86 711 | 9.99 603 | 16 | | | | |
| 45 | 9.12 985 | 93 | 9.13 384 | 95 | 0.86 616 | 9.99 601 | 15 | | | | |
| 46 | 9.13 078 | 93 | 9.13 478 | 94 | 0.86 522 | 9.99 600 | 14 | | | | |
| 47 | 9.13 171 | 93 | 9.13 573 | 95 | 0.86 427 | 9.99 598 | 13 | | | | |
| 48 | 9.13 263 | 92 | 9.13 667 | 94 | 0.86 333 | 9.99 596 | 12 | | | | |
| 49 | 9.13 355 | 92 | 9.13 761 | 94 | 0.86 239 | 9.99 595 | 11 | | | | |
| 50 | 9.13 447 | 92 | 9.13 854 | 93 | 0.86 146 | 9.99 593 | 10 | | | | |
| 51 | 9.13 539 | 91 | 9.13 948 | 94 | 0.86 052 | 9.99 591 | 9 | | | | |
| 52 | 9.13 630 | 92 | 9.14 041 | 93 | 0.85 959 | 9.99 589 | 8 | | | | |
| 53 | 9.13 722 | 92 | 9.14 134 | 93 | 0.85 866 | 9.99 588 | 7 | | | | |
| 54 | 9.13 813 | 91 | 9.14 227 | 93 | 0.85 773 | 9.99 586 | 6 | | | | |
| 55 | 9.13 904 | 91 | 9.14 320 | 92 | 0.85 680 | 9.99 584 | 5 | | | | |
| 56 | 9.13 994 | 90 | 9.14 412 | 92 | 0.85 588 | 9.99 582 | 4 | | | | |
| 57 | 9.14 085 | 91 | 9.14 504 | 92 | 0.85 496 | 9.99 581 | 3 | | | | |
| 58 | 9.14 175 | 90 | 9.14 597 | 93 | 0.85 403 | 9.99 579 | 2 | | | | |
| 59 | 9.14 266 | 91 | 9.14 688 | 91 | 0.85 312 | 9.99 577 | 1 | | | | |
| 60 | 9.14 356 | 90 | 9.14 780 | 92 | 0.85 220 | 9.99 575 | 0 | | | | |
| | L Cos | d | L Ctn | cd | L Tan | L Sin | ' | Prop. Pts. | | | |

| ° | L Sin | d | L Tan | c d | L Ctn | L Cos | | Prop. Pts. | | | |
|----|----------|----|----------|-----|----------|----------|----|------------|------|------|------|
| | | | | | | | | 92 | 91 | 90 | 89 |
| 0 | 9.14 356 | | 9.14 780 | | 0.85 220 | 9.99 575 | 60 | | | | |
| 1 | 9.14 445 | 89 | 9.14 872 | 92 | 0.85 128 | 9.99 574 | 59 | | | | |
| 2 | 9.14 535 | 90 | 9.14 963 | 91 | 0.85 037 | 9.99 572 | 58 | | | | |
| 3 | 9.14 624 | 89 | 9.15 054 | 91 | 0.84 946 | 9.99 570 | 57 | 2 | 18.4 | 18.2 | 17.8 |
| 4 | 9.14 714 | 90 | 9.15 145 | 91 | 0.84 855 | 9.99 568 | 56 | 3 | 27.6 | 27.3 | 27.0 |
| | | 89 | | 91 | | | | 4 | 36.8 | 36.4 | 36.0 |
| 5 | 9.14 803 | | 9.15 236 | | 0.84 764 | 9.99 566 | 55 | 5 | 46.0 | 45.5 | 45.0 |
| 6 | 9.14 891 | 88 | 9.15 327 | 91 | 0.84 673 | 9.99 565 | 54 | 6 | 55.2 | 54.6 | 54.0 |
| 7 | 9.14 980 | 89 | 9.15 417 | 90 | 0.84 583 | 9.99 563 | 53 | 7 | 64.4 | 63.7 | 63.0 |
| 8 | 9.15 069 | 89 | 9.15 508 | 91 | 0.84 492 | 9.99 561 | 52 | 8 | 73.6 | 72.8 | 72.0 |
| 9 | 9.15 157 | 88 | 9.15 598 | 90 | 0.84 402 | 9.99 559 | 51 | 9 | 82.8 | 81.9 | 81.0 |
| | | 88 | | 90 | | | | | | | |
| 10 | 9.15 245 | | 9.15 688 | | 0.84 312 | 9.99 557 | 50 | | | | |
| 11 | 9.15 333 | 88 | 9.15 777 | 89 | 0.84 223 | 9.99 556 | 49 | | | | |
| 12 | 9.15 421 | 88 | 9.15 867 | 90 | 0.84 133 | 9.99 554 | 48 | | | | |
| 13 | 9.15 508 | 87 | 9.15 956 | 89 | 0.84 044 | 9.99 552 | 47 | | | | |
| 14 | 9.15 596 | 88 | 9.16 046 | 90 | 0.83 954 | 9.99 550 | 46 | 2 | 17.6 | 17.4 | 17.2 |
| | | 87 | | 89 | | | | 3 | 26.4 | 26.1 | 25.8 |
| 15 | 9.15 683 | | 9.16 135 | | 0.83 865 | 9.99 548 | 45 | 4 | 35.2 | 34.8 | 34.4 |
| 16 | 9.15 770 | 87 | 9.16 224 | 89 | 0.83 776 | 9.99 546 | 44 | 5 | 44.0 | 43.5 | 43.0 |
| 17 | 9.15 857 | 87 | 9.16 312 | 88 | 0.83 688 | 9.99 545 | 43 | 6 | 52.8 | 52.2 | 51.6 |
| 18 | 9.15 944 | 87 | 9.16 401 | 89 | 0.83 599 | 9.99 543 | 42 | 7 | 61.6 | 60.9 | 60.2 |
| 19 | 9.16 030 | 86 | 9.16 489 | 88 | 0.83 511 | 9.99 541 | 41 | 8 | 70.4 | 69.6 | 68.8 |
| | | 86 | | 88 | | | | 9 | 79.2 | 78.3 | 77.4 |
| 20 | 9.16 116 | | 9.16 577 | | 0.83 423 | 9.99 539 | 40 | | | | |
| 21 | 9.16 203 | 87 | 9.16 665 | 88 | 0.83 335 | 9.99 537 | 39 | | | | |
| 22 | 9.16 289 | 86 | 9.16 753 | 88 | 0.83 247 | 9.99 535 | 38 | | | | |
| 23 | 9.16 374 | 85 | 9.16 841 | 88 | 0.83 159 | 9.99 533 | 37 | | | | |
| 24 | 9.16 460 | 86 | 9.16 928 | 87 | 0.83 072 | 9.99 532 | 36 | 2 | 17.0 | 16.8 | 16.6 |
| | | 85 | | 88 | | | | 3 | 25.5 | 25.2 | 24.9 |
| 25 | 9.16 545 | | 9.17 016 | | 0.82 984 | 9.99 530 | 35 | 4 | 34.0 | 33.6 | 33.2 |
| 26 | 9.16 631 | 86 | 9.17 103 | 87 | 0.82 897 | 9.99 528 | 34 | 5 | 42.5 | 42.0 | 41.5 |
| 27 | 9.16 716 | 85 | 9.17 190 | 87 | 0.82 810 | 9.99 526 | 33 | 6 | 51.0 | 50.4 | 49.8 |
| 28 | 9.16 801 | 85 | 9.17 277 | 86 | 0.82 723 | 9.99 524 | 32 | 7 | 59.5 | 58.8 | 58.1 |
| 29 | 9.16 886 | 84 | 9.17 363 | 87 | 0.82 637 | 9.99 522 | 31 | 8 | 68.0 | 67.2 | 66.4 |
| | | 84 | | 87 | | | | 9 | 76.5 | 75.6 | 74.7 |
| 30 | 9.16 970 | | 9.17 450 | | 0.82 550 | 9.99 520 | 30 | | | | |
| 31 | 9.17 055 | 85 | 9.17 536 | 86 | 0.82 464 | 9.99 518 | 29 | | | | |
| 32 | 9.17 139 | 84 | 9.17 622 | 86 | 0.82 378 | 9.99 517 | 28 | | | | |
| 33 | 9.17 223 | 84 | 9.17 708 | 86 | 0.82 292 | 9.99 515 | 27 | | | | |
| 34 | 9.17 307 | 84 | 9.17 794 | 86 | 0.82 206 | 9.99 513 | 26 | | | | |
| | | 84 | | 86 | | | | 2 | 16.4 | 16.2 | 16.0 |
| 35 | 9.17 391 | | 9.17 880 | | 0.82 120 | 9.99 511 | 25 | 3 | 24.6 | 24.3 | 24.0 |
| 36 | 9.17 474 | 83 | 9.17 965 | 85 | 0.82 035 | 9.99 509 | 24 | 4 | 32.8 | 32.4 | 32.0 |
| 37 | 9.17 558 | 84 | 9.18 051 | 85 | 0.81 949 | 9.99 507 | 23 | 5 | 41.0 | 40.5 | 40.0 |
| 38 | 9.17 641 | 83 | 9.18 136 | 85 | 0.81 864 | 9.99 505 | 22 | 6 | 49.2 | 48.6 | 48.0 |
| 39 | 9.17 724 | 83 | 9.18 221 | 85 | 0.81 779 | 9.99 503 | 21 | 7 | 57.4 | 56.7 | 56.0 |
| | | 83 | | 85 | | | | 8 | 65.6 | 64.8 | 64.0 |
| 40 | 9.17 807 | | 9.18 306 | | 0.81 694 | 9.99 501 | 20 | 9 | 73.8 | 72.9 | 72.0 |
| 41 | 9.17 890 | 83 | 9.18 391 | 84 | 0.81 609 | 9.99 499 | 19 | | | | |
| 42 | 9.17 973 | 82 | 9.18 475 | 85 | 0.81 525 | 9.99 497 | 18 | | | | |
| 43 | 9.18 055 | 82 | 9.18 560 | 84 | 0.81 440 | 9.99 495 | 17 | | | | |
| 44 | 9.18 137 | 83 | 9.18 644 | 84 | 0.81 356 | 9.99 494 | 16 | | | | |
| | | 82 | | 84 | | | | | | | |
| 45 | 9.18 220 | | 9.18 728 | | 0.81 272 | 9.99 492 | 15 | | | | |
| 46 | 9.18 302 | 81 | 9.18 812 | 84 | 0.81 188 | 9.99 490 | 14 | | | | |
| 47 | 9.18 383 | 82 | 9.18 896 | 83 | 0.81 104 | 9.99 488 | 13 | | | | |
| 48 | 9.18 465 | 82 | 9.18 979 | 84 | 0.81 021 | 9.99 486 | 12 | | | | |
| 49 | 9.18 547 | 81 | 9.19 063 | 83 | 0.80 937 | 9.99 484 | 11 | | | | |
| | | 81 | | 83 | | | | | | | |
| 50 | 9.18 628 | | 9.19 146 | | 0.80 854 | 9.99 482 | 10 | | | | |
| 51 | 9.18 709 | 81 | 9.19 229 | 83 | 0.80 771 | 9.99 480 | 9 | | | | |
| 52 | 9.18 790 | 81 | 9.19 312 | 83 | 0.80 688 | 9.99 478 | 8 | | | | |
| 53 | 9.18 871 | 81 | 9.19 395 | 83 | 0.80 605 | 9.99 476 | 7 | | | | |
| 54 | 9.18 952 | 81 | 9.19 478 | 83 | 0.80 522 | 9.99 474 | 6 | | | | |
| | | 81 | | 83 | | | | | | | |
| 55 | 9.19 033 | | 9.19 561 | | 0.80 439 | 9.99 472 | 5 | | | | |
| 56 | 9.19 113 | 80 | 9.19 643 | 82 | 0.80 357 | 9.99 470 | 4 | | | | |
| 57 | 9.19 193 | 80 | 9.19 725 | 82 | 0.80 275 | 9.99 468 | 3 | | | | |
| 58 | 9.19 273 | 80 | 9.19 807 | 82 | 0.80 193 | 9.99 466 | 2 | | | | |
| 59 | 9.19 353 | 80 | 9.19 889 | 82 | 0.80 111 | 9.99 464 | 1 | | | | |
| | | 80 | | 82 | | | | | | | |
| 60 | 9.19 433 | | 9.19 971 | | 0.80 029 | 9.99 462 | 0 | | | | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | | Prop. Pts. | | | |

From the top :

For $8^{\circ+}$ or $188^{\circ+}$, read as printed ; for $98^{\circ+}$ or $278^{\circ+}$, read co-function.

From the bottom :

For $81^{\circ+}$ or $261^{\circ+}$, read as printed ; for $171^{\circ+}$ or $351^{\circ+}$, read co-function.

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | | Prop. Pts. | | | |
|----|----------|----|----------|-----|----------|----------|----|------------|--|--|--|
| 0 | 9.19 433 | 80 | 9.19 971 | 82 | 0.80 029 | 9.99 462 | 60 | | | | |
| 1 | 9.19 513 | 79 | 9.20 053 | 81 | 0.79 947 | 9.99 460 | 59 | | | | |
| 2 | 9.19 592 | 79 | 9.20 134 | 82 | 0.79 866 | 9.99 458 | 58 | | | | |
| 3 | 9.19 672 | 80 | 9.20 216 | 81 | 0.79 784 | 9.99 456 | 57 | | | | |
| 4 | 9.19 751 | 79 | 9.20 297 | 81 | 0.79 703 | 9.99 454 | 56 | | | | |
| 5 | 9.19 830 | 79 | 9.20 378 | 81 | 0.79 622 | 9.99 452 | 55 | | | | |
| 6 | 9.19 909 | 79 | 9.20 459 | 81 | 0.79 541 | 9.99 450 | 54 | | | | |
| 7 | 9.19 988 | 79 | 9.20 540 | 81 | 0.79 460 | 9.99 448 | 53 | | | | |
| 8 | 9.20 067 | 79 | 9.20 621 | 80 | 0.79 379 | 9.99 446 | 52 | | | | |
| 9 | 9.20 145 | 78 | 9.20 701 | 80 | 0.79 299 | 9.99 444 | 51 | | | | |
| 10 | 9.20 223 | 78 | 9.20 782 | 81 | 0.79 218 | 9.99 442 | 50 | | | | |
| 11 | 9.20 302 | 79 | 9.20 862 | 80 | 0.79 138 | 9.99 440 | 49 | | | | |
| 12 | 9.20 380 | 78 | 9.20 942 | 80 | 0.79 058 | 9.99 438 | 48 | | | | |
| 13 | 9.20 458 | 78 | 9.21 022 | 80 | 0.78 978 | 9.99 436 | 47 | | | | |
| 14 | 9.20 535 | 77 | 9.21 102 | 80 | 0.78 898 | 9.99 434 | 46 | | | | |
| 15 | 9.20 613 | 78 | 9.21 182 | 80 | 0.78 818 | 9.99 432 | 45 | | | | |
| 16 | 9.20 691 | 78 | 9.21 261 | 79 | 0.78 739 | 9.99 429 | 44 | | | | |
| 17 | 9.20 768 | 77 | 9.21 341 | 80 | 0.78 659 | 9.99 427 | 43 | | | | |
| 18 | 9.20 845 | 77 | 9.21 420 | 79 | 0.78 580 | 9.99 425 | 42 | | | | |
| 19 | 9.20 922 | 77 | 9.21 499 | 79 | 0.78 501 | 9.99 423 | 41 | | | | |
| 20 | 9.20 999 | 77 | 9.21 578 | 79 | 0.78 422 | 9.99 421 | 40 | | | | |
| 21 | 9.21 076 | 77 | 9.21 657 | 79 | 0.78 343 | 9.99 419 | 39 | | | | |
| 22 | 9.21 153 | 77 | 9.21 736 | 79 | 0.78 264 | 9.99 417 | 38 | | | | |
| 23 | 9.21 229 | 76 | 9.21 814 | 78 | 0.78 186 | 9.99 415 | 37 | | | | |
| 24 | 9.21 306 | 77 | 9.21 893 | 79 | 0.78 107 | 9.99 413 | 36 | | | | |
| 25 | 9.21 382 | 76 | 9.21 971 | 78 | 0.78 029 | 9.99 411 | 35 | | | | |
| 26 | 9.21 458 | 76 | 9.22 049 | 78 | 0.77 951 | 9.99 409 | 34 | | | | |
| 27 | 9.21 534 | 76 | 9.22 127 | 78 | 0.77 873 | 9.99 407 | 33 | | | | |
| 28 | 9.21 610 | 76 | 9.22 205 | 78 | 0.77 795 | 9.99 404 | 32 | | | | |
| 29 | 9.21 685 | 75 | 9.22 283 | 78 | 0.77 717 | 9.99 402 | 31 | | | | |
| 30 | 9.21 761 | 76 | 9.22 361 | 78 | 0.77 639 | 9.99 400 | 30 | | | | |
| 31 | 9.21 836 | 75 | 9.22 438 | 77 | 0.77 562 | 9.99 398 | 29 | | | | |
| 32 | 9.21 912 | 76 | 9.22 516 | 78 | 0.77 484 | 9.99 396 | 28 | | | | |
| 33 | 9.21 987 | 75 | 9.22 593 | 77 | 0.77 407 | 9.99 394 | 27 | | | | |
| 34 | 9.22 062 | 75 | 9.22 670 | 77 | 0.77 330 | 9.99 392 | 26 | | | | |
| 35 | 9.22 137 | 74 | 9.22 747 | 77 | 0.77 253 | 9.99 390 | 25 | | | | |
| 36 | 9.22 211 | 75 | 9.22 824 | 77 | 0.77 176 | 9.99 388 | 24 | | | | |
| 37 | 9.22 286 | 75 | 9.22 901 | 77 | 0.77 099 | 9.99 385 | 23 | | | | |
| 38 | 9.22 361 | 75 | 9.22 977 | 76 | 0.77 023 | 9.99 383 | 22 | | | | |
| 39 | 9.22 435 | 74 | 9.23 054 | 77 | 0.76 946 | 9.99 381 | 21 | | | | |
| 40 | 9.22 509 | 74 | 9.23 130 | 76 | 0.76 870 | 9.99 379 | 20 | | | | |
| 41 | 9.22 583 | 74 | 9.23 206 | 76 | 0.76 794 | 9.99 377 | 19 | | | | |
| 42 | 9.22 657 | 74 | 9.23 283 | 77 | 0.76 717 | 9.99 375 | 18 | | | | |
| 43 | 9.22 731 | 74 | 9.23 359 | 76 | 0.76 641 | 9.99 372 | 17 | | | | |
| 44 | 9.22 805 | 73 | 9.23 435 | 76 | 0.76 565 | 9.99 370 | 16 | | | | |
| 45 | 9.22 878 | 74 | 9.23 510 | 75 | 0.76 490 | 9.99 368 | 15 | | | | |
| 46 | 9.22 952 | 73 | 9.23 586 | 76 | 0.76 414 | 9.99 366 | 14 | | | | |
| 47 | 9.23 025 | 73 | 9.23 661 | 75 | 0.76 339 | 9.99 364 | 13 | | | | |
| 48 | 9.23 098 | 73 | 9.23 737 | 76 | 0.76 263 | 9.99 362 | 12 | | | | |
| 49 | 9.23 171 | 73 | 9.23 812 | 75 | 0.76 188 | 9.99 359 | 11 | | | | |
| 50 | 9.23 244 | 73 | 9.23 887 | 75 | 0.76 113 | 9.99 357 | 10 | | | | |
| 51 | 9.23 317 | 73 | 9.23 962 | 75 | 0.76 038 | 9.99 355 | 9 | | | | |
| 52 | 9.23 390 | 72 | 9.24 037 | 75 | 0.75 963 | 9.99 353 | 8 | | | | |
| 53 | 9.23 462 | 73 | 9.24 112 | 74 | 0.75 888 | 9.99 351 | 7 | | | | |
| 54 | 9.23 535 | 72 | 9.24 186 | 74 | 0.75 814 | 9.99 348 | 6 | | | | |
| 55 | 9.23 607 | 72 | 9.24 261 | 75 | 0.75 739 | 9.99 346 | 5 | | | | |
| 56 | 9.23 679 | 73 | 9.24 335 | 74 | 0.75 665 | 9.99 344 | 4 | | | | |
| 57 | 9.23 752 | 71 | 9.24 410 | 74 | 0.75 590 | 9.99 342 | 3 | | | | |
| 58 | 9.23 823 | 72 | 9.24 484 | 74 | 0.75 516 | 9.99 340 | 2 | | | | |
| 59 | 9.23 895 | 72 | 9.24 558 | 74 | 0.75 442 | 9.99 337 | 1 | | | | |
| 60 | 9.23 967 | 72 | 9.24 632 | 74 | 0.75 368 | 9.99 335 | 0 | | | | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | ' | Prop. Pts. | | | |

80°—Logarithms of Trigonometric Functions

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | d | | Prop. Pts. | | | |
|----|----------|----|----------|-----|----------|----------|---|----|----------------------|------|------|------|
| 0 | 9.23 967 | 72 | 9.24 632 | 74 | 0.75 368 | 9.99 335 | 2 | 60 | | | | |
| 1 | 9.24 039 | 71 | 9.24 706 | 74 | 0.75 294 | 9.99 333 | 2 | 59 | | | | |
| 2 | 9.24 110 | 71 | 9.24 779 | 73 | 0.75 221 | 9.99 331 | 2 | 58 | 74 | 73 | 72 | |
| 3 | 9.24 181 | 71 | 9.24 853 | 74 | 0.75 147 | 9.99 328 | 3 | 57 | 2 | 14.8 | 14.6 | 14.4 |
| 4 | 9.24 253 | 72 | 9.24 926 | 73 | 0.75 074 | 9.99 326 | 2 | 56 | 3 | 22.2 | 21.9 | 21.6 |
| 5 | 9.24 324 | 71 | 9.25 000 | 74 | 0.75 000 | 9.99 324 | 2 | 55 | 4 | 29.6 | 29.2 | 28.8 |
| 6 | 9.24 395 | 71 | 9.25 073 | 73 | 0.74 927 | 9.99 322 | 2 | 54 | 5 | 37.0 | 36.5 | 36.0 |
| 7 | 9.24 466 | 71 | 9.25 146 | 73 | 0.74 854 | 9.99 319 | 3 | 53 | 6 | 44.4 | 43.8 | 43.2 |
| 8 | 9.24 536 | 70 | 9.25 219 | 73 | 0.74 781 | 9.99 317 | 2 | 52 | 7 | 51.8 | 51.1 | 50.4 |
| 9 | 9.24 607 | 71 | 9.25 292 | 73 | 0.74 708 | 9.99 315 | 2 | 51 | 8 | 59.2 | 58.4 | 57.6 |
| 10 | 9.24 677 | 70 | 9.25 365 | 73 | 0.74 635 | 9.99 313 | 2 | 50 | 9 | 66.6 | 65.7 | 64.8 |
| 11 | 9.24 748 | 71 | 9.25 437 | 72 | 0.74 563 | 9.99 310 | 3 | 49 | | | | |
| 12 | 9.24 818 | 70 | 9.25 510 | 73 | 0.74 490 | 9.99 308 | 2 | 48 | | | | |
| 13 | 9.24 888 | 70 | 9.25 582 | 72 | 0.74 418 | 9.99 306 | 2 | 47 | 71 | 70 | 69 | |
| 14 | 9.24 958 | 70 | 9.25 655 | 73 | 0.74 345 | 9.99 304 | 2 | 46 | 2 | 14.2 | 14.0 | 13.8 |
| 15 | 9.25 028 | 70 | 9.25 727 | 72 | 0.74 273 | 9.99 301 | 3 | 45 | 3 | 21.3 | 21.0 | 20.7 |
| 16 | 9.25 098 | 70 | 9.25 799 | 72 | 0.74 201 | 9.99 299 | 2 | 44 | 4 | 28.4 | 28.0 | 27.6 |
| 17 | 9.25 168 | 70 | 9.25 871 | 72 | 0.74 129 | 9.99 297 | 2 | 43 | 5 | 35.5 | 35.0 | 34.5 |
| 18 | 9.25 237 | 69 | 9.25 943 | 72 | 0.74 057 | 9.99 294 | 3 | 42 | 6 | 42.6 | 42.0 | 41.4 |
| 19 | 9.25 307 | 70 | 9.26 015 | 72 | 0.73 985 | 9.99 292 | 2 | 41 | 7 | 49.7 | 49.0 | 48.3 |
| 20 | 9.25 376 | 69 | 9.26 086 | 71 | 0.73 914 | 9.99 290 | 2 | 40 | 8 | 56.8 | 56.0 | 55.2 |
| 21 | 9.25 445 | 69 | 9.26 158 | 72 | 0.73 842 | 9.99 288 | 2 | 39 | 9 | 63.9 | 63.0 | 62.1 |
| 22 | 9.25 514 | 69 | 9.26 229 | 71 | 0.73 771 | 9.99 285 | 3 | 38 | | | | |
| 23 | 9.25 583 | 69 | 9.26 301 | 72 | 0.73 699 | 9.99 283 | 2 | 37 | 68 | 67 | 66 | |
| 24 | 9.25 652 | 69 | 9.26 372 | 71 | 0.73 628 | 9.99 281 | 2 | 36 | 2 | 13.6 | 13.4 | 13.2 |
| 25 | 9.25 721 | 69 | 9.26 443 | 71 | 0.73 557 | 9.99 278 | 3 | 35 | 3 | 20.4 | 20.1 | 19.8 |
| 26 | 9.25 790 | 69 | 9.26 514 | 71 | 0.73 486 | 9.99 276 | 2 | 34 | 4 | 27.2 | 26.8 | 26.4 |
| 27 | 9.25 858 | 68 | 9.26 585 | 71 | 0.73 415 | 9.99 274 | 2 | 33 | 5 | 34.0 | 33.5 | 33.0 |
| 28 | 9.25 927 | 69 | 9.26 655 | 70 | 0.73 345 | 9.99 271 | 3 | 32 | 6 | 40.8 | 40.2 | 39.6 |
| 29 | 9.25 995 | 68 | 9.26 726 | 71 | 0.73 274 | 9.99 269 | 2 | 31 | 7 | 47.6 | 46.9 | 46.2 |
| 30 | 9.26 063 | 68 | 9.26 797 | 71 | 0.73 203 | 9.99 267 | 2 | 30 | 8 | 54.4 | 53.6 | 52.8 |
| 31 | 9.26 131 | 68 | 9.26 867 | 70 | 0.73 133 | 9.99 264 | 3 | 29 | 9 | 61.2 | 60.3 | 59.4 |
| 32 | 9.26 199 | 68 | 9.26 937 | 70 | 0.73 063 | 9.99 262 | 2 | 28 | | | | |
| 33 | 9.26 267 | 68 | 9.27 008 | 71 | 0.72 992 | 9.99 260 | 2 | 27 | | | | |
| 34 | 9.26 335 | 68 | 9.27 078 | 70 | 0.72 922 | 9.99 257 | 3 | 26 | 65 | 3 | | |
| 35 | 9.26 403 | 68 | 9.27 148 | 70 | 0.72 852 | 9.99 255 | 2 | 25 | 2 | 13.0 | 0.6 | |
| 36 | 9.26 470 | 67 | 9.27 218 | 70 | 0.72 782 | 9.99 252 | 2 | 24 | 3 | 19.5 | 0.9 | |
| 37 | 9.26 538 | 68 | 9.27 288 | 70 | 0.72 712 | 9.99 250 | 2 | 23 | 4 | 26.0 | 1.2 | |
| 38 | 9.26 605 | 67 | 9.27 357 | 69 | 0.72 643 | 9.99 248 | 2 | 22 | 5 | 32.5 | 1.5 | |
| 39 | 9.26 672 | 67 | 9.27 427 | 70 | 0.72 573 | 9.99 245 | 3 | 21 | 6 | 39.0 | 1.8 | |
| 40 | 9.26 739 | 67 | 9.27 496 | 69 | 0.72 504 | 9.99 243 | 2 | 20 | 7 | 45.5 | 2.1 | |
| 41 | 9.26 806 | 67 | 9.27 566 | 70 | 0.72 434 | 9.99 241 | 2 | 19 | 8 | 52.0 | 2.4 | |
| 42 | 9.26 873 | 67 | 9.27 635 | 69 | 0.72 365 | 9.99 238 | 3 | 18 | 9 | 58.5 | 2.7 | |
| 43 | 9.26 940 | 67 | 9.27 704 | 69 | 0.72 296 | 9.99 236 | 2 | 17 | | | | |
| 44 | 9.27 007 | 67 | 9.27 773 | 69 | 0.72 227 | 9.99 233 | 3 | 16 | | | | |
| 45 | 9.27 073 | 66 | 9.27 842 | 69 | 0.72 158 | 9.99 231 | 2 | 15 | From the top: | | | |
| 46 | 9.27 140 | 67 | 9.27 911 | 69 | 0.72 089 | 9.99 229 | 2 | 14 | For 10°+ or 190°+, | | | |
| 47 | 9.27 206 | 66 | 9.27 980 | 69 | 0.72 020 | 9.99 226 | 3 | 13 | read as printed; for | | | |
| 48 | 9.27 273 | 67 | 9.28 049 | 69 | 0.71 951 | 9.99 224 | 2 | 12 | 100°+ or 280°+, read | | | |
| 49 | 9.27 339 | 66 | 9.28 117 | 68 | 0.71 883 | 9.99 221 | 3 | 11 | co-function. | | | |
| 50 | 9.27 405 | 66 | 9.28 186 | 69 | 0.71 814 | 9.99 219 | 2 | 10 | From the bottom: | | | |
| 51 | 9.27 471 | 66 | 9.28 254 | 68 | 0.71 746 | 9.99 217 | 2 | 9 | For 79°+ or 259°+, | | | |
| 52 | 9.27 537 | 66 | 9.28 323 | 69 | 0.71 677 | 9.99 214 | 3 | 8 | read as printed; for | | | |
| 53 | 9.27 602 | 65 | 9.28 391 | 68 | 0.71 609 | 9.99 212 | 2 | 7 | 139°+ or 349°+, read | | | |
| 54 | 9.27 668 | 66 | 9.28 459 | 68 | 0.71 541 | 9.99 209 | 3 | 6 | co-function. | | | |
| 55 | 9.27 734 | 66 | 9.28 527 | 68 | 0.71 473 | 9.99 207 | 2 | 5 | | | | |
| 56 | 9.27 799 | 65 | 9.28 595 | 68 | 0.71 405 | 9.99 204 | 3 | 4 | | | | |
| 57 | 9.27 864 | 66 | 9.28 662 | 67 | 0.71 338 | 9.99 202 | 2 | 3 | | | | |
| 58 | 9.27 930 | 65 | 9.28 730 | 68 | 0.71 270 | 9.99 200 | 2 | 2 | | | | |
| 59 | 9.27 995 | 65 | 9.28 798 | 68 | 0.71 202 | 9.99 197 | 3 | 1 | | | | |
| 60 | 9.28 060 | 65 | 9.28 865 | 67 | 0.71 135 | 9.99 195 | 2 | 0 | | | | |
| ' | L Cos | d | L Ctn | c d | L Tan | L Sin | d | ' | Prop. Pts. | | | |

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | d | Prop. Pts. | | | |
|----|----------|----|----------|-----|----------|----------|---|------------|-----------------------|------|------|
| 0 | 9.28 060 | | 9.28 865 | | 0.71 135 | 9.99 195 | | 60 | | | |
| 1 | 9.28 125 | 65 | 9.28 933 | 68 | 0.71 067 | 9.99 192 | 3 | 59 | | | |
| 2 | 9.28 190 | 65 | 9.29 000 | 67 | 0.71 000 | 9.99 190 | 2 | 58 | | | |
| 3 | 9.28 254 | 64 | 9.29 067 | 67 | 0.70 933 | 9.99 187 | 3 | 57 | 2 | 13.6 | 13.4 |
| 4 | 9.28 319 | 65 | 9.29 134 | 67 | 0.70 866 | 9.99 185 | 2 | 56 | 3 | 20.4 | 20.1 |
| | | 65 | | 67 | | | 3 | 55 | 4 | 27.2 | 26.8 |
| 5 | 9.28 384 | 64 | 9.29 201 | 67 | 0.70 799 | 9.99 182 | 2 | 54 | 5 | 34.0 | 33.5 |
| 6 | 9.28 448 | 64 | 9.29 268 | 67 | 0.70 732 | 9.99 180 | 3 | 53 | 6 | 40.8 | 40.2 |
| 7 | 9.28 512 | 65 | 9.29 335 | 67 | 0.70 665 | 9.99 177 | 2 | 52 | 7 | 47.6 | 46.9 |
| 8 | 9.28 577 | 64 | 9.29 402 | 66 | 0.70 598 | 9.99 175 | 3 | 51 | 8 | 54.4 | 53.6 |
| 9 | 9.28 641 | 64 | 9.29 468 | 67 | 0.70 532 | 9.99 172 | 2 | 50 | 9 | 61.2 | 60.3 |
| 10 | 9.28 705 | 64 | 9.29 535 | 66 | 0.70 465 | 9.99 170 | 3 | 49 | | | |
| 11 | 9.28 769 | 64 | 9.29 601 | 67 | 0.70 399 | 9.99 167 | 2 | 48 | | | |
| 12 | 9.28 833 | 63 | 9.29 668 | 66 | 0.70 332 | 9.99 165 | 3 | 47 | 65 | 64 | 63 |
| 13 | 9.28 896 | 64 | 9.29 734 | 66 | 0.70 266 | 9.99 162 | 2 | 46 | 2 | 13.0 | 12.8 |
| 14 | 9.28 960 | 64 | 9.29 800 | 66 | 0.70 200 | 9.99 160 | 3 | 45 | 3 | 19.5 | 19.2 |
| 15 | 9.29 024 | 63 | 9.29 866 | 66 | 0.70 134 | 9.99 157 | 2 | 44 | 4 | 26.0 | 25.6 |
| 16 | 9.29 087 | 63 | 9.29 932 | 66 | 0.70 068 | 9.99 155 | 3 | 43 | 5 | 32.5 | 32.0 |
| 17 | 9.29 150 | 64 | 9.29 998 | 66 | 0.70 002 | 9.99 152 | 2 | 42 | 6 | 39.0 | 38.4 |
| 18 | 9.29 214 | 63 | 9.30 064 | 66 | 0.69 936 | 9.99 150 | 3 | 41 | 7 | 45.5 | 44.8 |
| 19 | 9.29 277 | 63 | 9.30 130 | 65 | 0.69 870 | 9.99 147 | 2 | 40 | 8 | 52.0 | 51.2 |
| 20 | 9.29 340 | 63 | 9.30 195 | 66 | 0.69 805 | 9.99 145 | 3 | 39 | 9 | 58.5 | 57.6 |
| 21 | 9.29 403 | 63 | 9.30 261 | 65 | 0.69 739 | 9.99 142 | 2 | 38 | | | |
| 22 | 9.29 466 | 63 | 9.30 326 | 65 | 0.69 674 | 9.99 140 | 3 | 37 | 62 | 61 | 60 |
| 23 | 9.29 529 | 62 | 9.30 391 | 66 | 0.69 609 | 9.99 137 | 2 | 36 | 2 | 12.4 | 12.2 |
| 24 | 9.29 591 | 63 | 9.30 457 | 65 | 0.69 543 | 9.99 135 | 3 | 35 | 3 | 18.6 | 18.3 |
| 25 | 9.29 654 | 62 | 9.30 522 | 65 | 0.69 478 | 9.99 132 | 2 | 34 | 4 | 24.8 | 24.4 |
| 26 | 9.29 716 | 63 | 9.30 587 | 65 | 0.69 413 | 9.99 130 | 3 | 33 | 5 | 31.0 | 30.5 |
| 27 | 9.29 779 | 62 | 9.30 652 | 65 | 0.69 348 | 9.99 127 | 2 | 32 | 6 | 37.2 | 36.6 |
| 28 | 9.29 841 | 62 | 9.30 717 | 64 | 0.69 283 | 9.99 124 | 3 | 31 | 7 | 43.4 | 42.7 |
| 29 | 9.29 903 | 63 | 9.30 782 | 65 | 0.69 218 | 9.99 122 | 2 | 30 | 8 | 49.6 | 48.8 |
| 30 | 9.29 966 | 62 | 9.30 846 | 65 | 0.69 154 | 9.99 119 | 3 | 29 | 9 | 55.8 | 54.9 |
| 31 | 9.30 028 | 62 | 9.30 911 | 64 | 0.69 089 | 9.99 117 | 2 | 28 | | | |
| 32 | 9.30 090 | 61 | 9.30 975 | 65 | 0.69 025 | 9.99 114 | 3 | 27 | | | |
| 33 | 9.30 151 | 62 | 9.31 040 | 64 | 0.68 960 | 9.99 112 | 2 | 26 | | | |
| 34 | 9.30 213 | 62 | 9.31 104 | 64 | 0.68 896 | 9.99 109 | 3 | 25 | | | |
| 35 | 9.30 275 | 61 | 9.31 168 | 65 | 0.68 832 | 9.99 106 | 2 | 24 | 2 | 11.8 | 0.6 |
| 36 | 9.30 336 | 62 | 9.31 233 | 64 | 0.68 767 | 9.99 104 | 3 | 23 | 3 | 17.7 | 0.9 |
| 37 | 9.30 398 | 61 | 9.31 297 | 64 | 0.68 703 | 9.99 101 | 2 | 22 | 4 | 23.6 | 1.2 |
| 38 | 9.30 459 | 62 | 9.31 361 | 64 | 0.68 639 | 9.99 099 | 3 | 21 | 5 | 29.5 | 1.5 |
| 39 | 9.30 521 | 61 | 9.31 425 | 64 | 0.68 575 | 9.99 096 | 2 | 20 | 6 | 35.4 | 1.8 |
| 40 | 9.30 582 | 61 | 9.31 489 | 63 | 0.68 511 | 9.99 093 | 3 | 19 | 7 | 41.3 | 2.1 |
| 41 | 9.30 643 | 61 | 9.31 552 | 64 | 0.68 448 | 9.99 091 | 2 | 18 | 8 | 47.2 | 2.4 |
| 42 | 9.30 704 | 61 | 9.31 616 | 63 | 0.68 384 | 9.99 088 | 3 | 17 | 9 | 53.1 | 2.7 |
| 43 | 9.30 765 | 61 | 9.31 679 | 64 | 0.68 321 | 9.99 086 | 2 | 16 | | | |
| 44 | 9.30 826 | 61 | 9.31 743 | 63 | 0.68 257 | 9.99 083 | 3 | 15 | | | |
| 45 | 9.30 887 | 60 | 9.31 806 | 64 | 0.68 194 | 9.99 080 | 2 | 14 | From the top : | | |
| 46 | 9.30 947 | 61 | 9.31 870 | 63 | 0.68 130 | 9.99 078 | 3 | 13 | For 11°+ or 191°+, | | |
| 47 | 9.31 008 | 60 | 9.31 933 | 63 | 0.68 067 | 9.99 075 | 2 | 12 | read as printed ; for | | |
| 48 | 9.31 068 | 61 | 9.31 996 | 63 | 0.68 004 | 9.99 072 | 3 | 11 | 101°+ or 281°+, read | | |
| 49 | 9.31 129 | 60 | 9.32 059 | 63 | 0.67 941 | 9.99 070 | 2 | 10 | co-function. | | |
| 50 | 9.31 189 | 61 | 9.32 122 | 63 | 0.67 878 | 9.99 067 | 3 | 9 | From the bottom : | | |
| 51 | 9.31 250 | 60 | 9.32 185 | 63 | 0.67 815 | 9.99 064 | 2 | 8 | For 78°+ or 258°+, | | |
| 52 | 9.31 310 | 60 | 9.32 248 | 63 | 0.67 752 | 9.99 062 | 3 | 7 | read as printed ; for | | |
| 53 | 9.31 370 | 60 | 9.32 311 | 62 | 0.67 689 | 9.99 059 | 2 | 6 | 168°+ or 348°+, read | | |
| 54 | 9.31 430 | 60 | 9.32 373 | 63 | 0.67 627 | 9.99 056 | 3 | 5 | co-function. | | |
| 55 | 9.31 490 | 59 | 9.32 436 | 62 | 0.67 564 | 9.99 054 | 2 | 4 | | | |
| 56 | 9.31 549 | 60 | 9.32 498 | 63 | 0.67 502 | 9.99 051 | 3 | 3 | | | |
| 57 | 9.31 609 | 60 | 9.32 561 | 62 | 0.67 439 | 9.99 048 | 2 | 2 | | | |
| 58 | 9.31 669 | 59 | 9.32 623 | 62 | 0.67 377 | 9.99 046 | 3 | 1 | | | |
| 59 | 9.31 728 | 60 | 9.32 685 | 62 | 0.67 315 | 9.99 043 | 2 | 0 | | | |
| 60 | 9.31 788 | | 9.32 747 | | 0.67 253 | 9.99 040 | | | | | |
| ' | L Cos | d | L Ctn | c d | L Tan | L Sin | d | Prop. Pts. | | | |

| | L Sin | d | L Tan | c d | L Ctn | L Cos | d | Prop. Pts. | | | |
|----|----------|----|----------|-----|----------|----------|---|------------|----------------------|------|------|
| 0 | 9.31 788 | | 9.32 747 | | 0.67 253 | 9.99 040 | | 60 | | | |
| 1 | 9.31 847 | 59 | 9.32 810 | 63 | 0.67 190 | 9.99 038 | 2 | 59 | | | |
| 2 | 9.31 907 | 60 | 9.32 872 | 62 | 0.67 128 | 9.99 035 | 3 | 58 | 63 | 62 | 61 |
| 3 | 9.31 966 | 59 | 9.32 933 | 61 | 0.67 067 | 9.99 032 | 3 | 57 | 2 | 12.6 | 12.4 |
| 4 | 9.32 025 | 59 | 9.32 995 | 62 | 0.67 005 | 9.99 030 | 2 | 56 | 3 | 18.9 | 18.6 |
| | | 59 | | 62 | | | 3 | 55 | 4 | 25.2 | 24.8 |
| 5 | 9.32 084 | | 9.33 057 | | 0.66 943 | 9.99 027 | | 54 | 5 | 31.5 | 31.0 |
| 6 | 9.32 143 | 59 | 9.33 119 | 61 | 0.66 881 | 9.99 024 | 3 | 53 | 6 | 37.8 | 37.2 |
| 7 | 9.32 202 | 59 | 9.33 180 | 62 | 0.66 820 | 9.99 022 | 2 | 52 | 7 | 44.1 | 43.4 |
| 8 | 9.32 261 | 59 | 9.33 242 | 61 | 0.66 758 | 9.99 019 | 3 | 51 | 8 | 50.4 | 49.6 |
| 9 | 9.32 319 | 58 | 9.33 303 | 62 | 0.66 697 | 9.99 016 | 3 | 50 | 9 | 56.7 | 55.8 |
| | | 59 | | 61 | | | 2 | 49 | | | |
| 10 | 9.32 378 | | 9.33 365 | | 0.66 635 | 9.99 013 | | 48 | | | |
| 11 | 9.32 437 | 59 | 9.33 426 | 61 | 0.66 574 | 9.99 011 | 3 | 47 | 60 | 59 | 58 |
| 12 | 9.32 495 | 58 | 9.33 487 | 61 | 0.66 513 | 9.99 008 | 3 | 46 | | | |
| 13 | 9.32 553 | 58 | 9.33 548 | 61 | 0.66 452 | 9.99 005 | 3 | 45 | 2 | 12.0 | 11.8 |
| 14 | 9.32 612 | 59 | 9.33 609 | 61 | 0.66 391 | 9.99 002 | 2 | 44 | 3 | 18.0 | 17.7 |
| | | 58 | | 61 | | | 3 | 43 | 4 | 24.0 | 23.6 |
| 15 | 9.32 670 | | 9.33 670 | | 0.66 330 | 9.99 000 | | 42 | 5 | 30.0 | 29.5 |
| 16 | 9.32 728 | 58 | 9.33 731 | 61 | 0.66 269 | 9.98 997 | 3 | 41 | 6 | 36.0 | 35.4 |
| 17 | 9.32 786 | 58 | 9.33 792 | 61 | 0.66 208 | 9.98 994 | 3 | 40 | 7 | 42.0 | 41.3 |
| 18 | 9.32 844 | 58 | 9.33 853 | 60 | 0.66 147 | 9.98 991 | 2 | 39 | 8 | 48.0 | 47.2 |
| 19 | 9.32 902 | 58 | 9.33 913 | 61 | 0.66 087 | 9.98 989 | 3 | 38 | 9 | 54.0 | 53.1 |
| | | 58 | | 60 | | | 3 | 37 | | | |
| 20 | 9.32 960 | | 9.33 974 | | 0.66 026 | 9.98 986 | | 36 | 57 | 56 | |
| 21 | 9.33 018 | 58 | 9.34 034 | 60 | 0.65 966 | 9.98 983 | 3 | 35 | 2 | 11.4 | 11.2 |
| 22 | 9.33 075 | 57 | 9.34 095 | 61 | 0.65 905 | 9.98 980 | 3 | 34 | 3 | 17.1 | 16.8 |
| 23 | 9.33 133 | 58 | 9.34 155 | 60 | 0.65 845 | 9.98 978 | 2 | 33 | 4 | 22.8 | 22.4 |
| 24 | 9.33 190 | 57 | 9.34 215 | 60 | 0.65 785 | 9.98 975 | 3 | 32 | 5 | 28.5 | 28.0 |
| | | 58 | | 61 | | | 3 | 31 | 6 | 34.2 | 33.6 |
| 25 | 9.33 248 | | 9.34 276 | | 0.65 724 | 9.98 972 | | 30 | 7 | 39.9 | 39.2 |
| 26 | 9.33 305 | 57 | 9.34 336 | 60 | 0.65 664 | 9.98 969 | 3 | 29 | 8 | 45.6 | 44.8 |
| 27 | 9.33 362 | 57 | 9.34 396 | 60 | 0.65 604 | 9.98 967 | 2 | 28 | 9 | 51.3 | 50.4 |
| 28 | 9.33 420 | 58 | 9.34 456 | 60 | 0.65 544 | 9.98 964 | 3 | 27 | | | |
| 29 | 9.33 477 | 57 | 9.34 516 | 60 | 0.65 484 | 9.98 961 | 3 | 26 | 55 | 3 | |
| | | 57 | | 60 | | | 3 | 25 | 2 | 11.0 | 0.6 |
| 30 | 9.33 534 | | 9.34 576 | | 0.65 424 | 9.98 958 | | 24 | 3 | 16.5 | 0.9 |
| 31 | 9.33 591 | 57 | 9.34 635 | 59 | 0.65 365 | 9.98 955 | 3 | 23 | 4 | 22.0 | 1.2 |
| 32 | 9.33 647 | 56 | 9.34 695 | 60 | 0.65 305 | 9.98 953 | 2 | 22 | 5 | 27.5 | 1.5 |
| 33 | 9.33 704 | 57 | 9.34 755 | 60 | 0.65 245 | 9.98 950 | 3 | 21 | 6 | 33.0 | 1.8 |
| 34 | 9.33 761 | 57 | 9.34 814 | 59 | 0.65 186 | 9.98 947 | 3 | 20 | 7 | 38.5 | 2.1 |
| | | 57 | | 60 | | | 3 | 19 | 8 | 44.0 | 2.4 |
| 35 | 9.33 818 | | 9.34 874 | | 0.65 126 | 9.98 944 | | 18 | 9 | 49.5 | 2.7 |
| 36 | 9.33 874 | 56 | 9.34 933 | 59 | 0.65 067 | 9.98 941 | 3 | 17 | | | |
| 37 | 9.33 931 | 57 | 9.34 992 | 59 | 0.65 008 | 9.98 938 | 3 | 16 | | | |
| 38 | 9.33 987 | 56 | 9.35 051 | 59 | 0.64 949 | 9.98 936 | 2 | 15 | From the top : | | |
| 39 | 9.34 043 | 56 | 9.35 111 | 60 | 0.64 889 | 9.98 933 | 3 | 14 | For 12°+ or 192°+, | | |
| | | 57 | | 59 | | | 3 | 13 | read as printed; for | | |
| 40 | 9.34 100 | | 9.35 170 | | 0.64 830 | 9.98 930 | | 12 | 102°+ or 282°+, read | | |
| 41 | 9.34 156 | 56 | 9.35 229 | 59 | 0.64 771 | 9.98 927 | 3 | 11 | co-function. | | |
| 42 | 9.34 212 | 56 | 9.35 288 | 59 | 0.64 712 | 9.98 924 | 3 | 10 | From the bottom : | | |
| 43 | 9.34 268 | 56 | 9.35 347 | 58 | 0.64 653 | 9.98 921 | 2 | 9 | For 77° or 257°, | | |
| 44 | 9.34 324 | 56 | 9.35 405 | 59 | 0.64 595 | 9.98 919 | 3 | 8 | read as printed; for | | |
| | | 56 | | 59 | | | 3 | 7 | 167° or 347°, read | | |
| 45 | 9.34 380 | | 9.35 464 | | 0.64 536 | 9.98 916 | | 6 | co-function. | | |
| 46 | 9.34 436 | 56 | 9.35 523 | 59 | 0.64 477 | 9.98 913 | 3 | 5 | | | |
| 47 | 9.34 491 | 55 | 9.35 581 | 58 | 0.64 419 | 9.98 910 | 3 | 4 | | | |
| 48 | 9.34 547 | 56 | 9.35 640 | 59 | 0.64 360 | 9.98 907 | 3 | 3 | | | |
| 49 | 9.34 602 | 55 | 9.35 698 | 58 | 0.64 302 | 9.98 904 | 3 | 2 | | | |
| | | 56 | | 59 | | | 3 | 1 | | | |
| 50 | 9.34 658 | | 9.35 757 | | 0.64 243 | 9.98 901 | | 0 | | | |
| 51 | 9.34 713 | 55 | 9.35 815 | 58 | 0.64 185 | 9.98 898 | 3 | | | | |
| 52 | 9.34 769 | 56 | 9.35 873 | 58 | 0.64 127 | 9.98 896 | 2 | | | | |
| 53 | 9.34 824 | 55 | 9.35 931 | 58 | 0.64 069 | 9.98 893 | 3 | | | | |
| 54 | 9.34 879 | 55 | 9.35 989 | 58 | 0.64 011 | 9.98 890 | 3 | | | | |
| | | 55 | | 58 | | | 3 | | | | |
| 55 | 9.34 934 | | 9.36 047 | | 0.63 953 | 9.98 887 | | | | | |
| 56 | 9.34 989 | 55 | 9.36 105 | 58 | 0.63 895 | 9.98 884 | 3 | | | | |
| 57 | 9.35 044 | 55 | 9.36 163 | 58 | 0.63 837 | 9.98 881 | 3 | | | | |
| 58 | 9.35 099 | 55 | 9.36 221 | 58 | 0.63 779 | 9.98 878 | 3 | | | | |
| 59 | 9.35 154 | 55 | 9.36 279 | 57 | 0.63 721 | 9.98 875 | 3 | | | | |
| 60 | 9.35 209 | | 9.36 336 | | 0.63 664 | 9.98 872 | | | | | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | d | | Prop. Pts. | | |

| ° | L Sin | | d | L Tan | | c d | L Ctn | | L Cos | | d | Prop. Pts. | | | |
|----|----------|----|---|----------|-----|-----|----------|--|----------|---|----|------------|------|------|------|
| | | | | | | | | | | | | | | | |
| 0 | 9.35 209 | | | 9.36 336 | | | 0.63 664 | | 9.98 872 | | | 60 | | | |
| 1 | 9.35 263 | 54 | | 9.36 394 | 58 | | 0.63 606 | | 9.98 869 | 3 | 59 | | | | |
| 2 | 9.35 318 | 55 | | 9.36 452 | 58 | | 0.63 548 | | 9.98 867 | 2 | 58 | | 58 | 57 | 56 |
| 3 | 9.35 373 | 55 | | 9.36 509 | 57 | | 0.63 491 | | 9.98 864 | 3 | 57 | 2 | 11.6 | 11.4 | 11.2 |
| 4 | 9.35 427 | 54 | | 9.36 566 | 57 | | 0.63 434 | | 9.98 861 | 3 | 56 | 3 | 17.4 | 17.1 | 16.8 |
| 5 | 9.35 481 | 54 | | 9.36 624 | 58 | | 0.63 376 | | 9.98 858 | 3 | 55 | 4 | 23.2 | 22.8 | 22.4 |
| 6 | 9.35 536 | 55 | | 9.36 681 | 57 | | 0.63 319 | | 9.98 855 | 3 | 54 | 5 | 29.0 | 28.5 | 28.0 |
| 7 | 9.35 590 | 54 | | 9.36 738 | 57 | | 0.63 262 | | 9.98 852 | 3 | 53 | 6 | 34.8 | 34.2 | 33.6 |
| 8 | 9.35 644 | 54 | | 9.36 795 | 57 | | 0.63 205 | | 9.98 849 | 3 | 52 | 7 | 40.6 | 39.9 | 39.2 |
| 9 | 9.35 698 | 54 | | 9.36 852 | 57 | | 0.63 148 | | 9.98 846 | 3 | 51 | 8 | 46.4 | 45.6 | 44.8 |
| 10 | 9.35 752 | 54 | | 9.36 909 | 57 | | 0.63 091 | | 9.98 843 | 3 | 50 | 9 | 52.2 | 51.3 | 50.4 |
| 11 | 9.35 806 | 54 | | 9.36 966 | 57 | | 0.63 034 | | 9.98 840 | 3 | 49 | | | | |
| 12 | 9.35 860 | 54 | | 9.37 023 | 57 | | 0.62 977 | | 9.98 837 | 3 | 48 | | 55 | 54 | 53 |
| 13 | 9.35 914 | 54 | | 9.37 080 | 57 | | 0.62 920 | | 9.98 834 | 3 | 47 | 2 | 11.0 | 10.8 | 10.6 |
| 14 | 9.35 968 | 54 | | 9.37 137 | 57 | | 0.62 863 | | 9.98 831 | 3 | 46 | 3 | 16.5 | 16.2 | 15.9 |
| 15 | 9.36 022 | 53 | | 9.37 193 | 56 | | 0.62 807 | | 9.98 828 | 3 | 45 | 4 | 22.0 | 21.6 | 21.2 |
| 16 | 9.36 075 | 53 | | 9.37 250 | 57 | | 0.62 750 | | 9.98 825 | 3 | 44 | 5 | 27.5 | 27.0 | 26.5 |
| 17 | 9.36 129 | 54 | | 9.37 306 | 56 | | 0.62 694 | | 9.98 822 | 3 | 43 | 6 | 33.0 | 32.4 | 31.8 |
| 18 | 9.36 182 | 53 | | 9.37 363 | 56 | | 0.62 637 | | 9.98 819 | 3 | 42 | 7 | 38.5 | 37.8 | 37.1 |
| 19 | 9.36 236 | 54 | | 9.37 419 | 56 | | 0.62 581 | | 9.98 816 | 3 | 41 | 8 | 44.0 | 43.2 | 42.4 |
| 20 | 9.36 289 | 53 | | 9.37 476 | 57 | | 0.62 524 | | 9.98 813 | 3 | 40 | 9 | 49.5 | 48.6 | 47.7 |
| 21 | 9.36 342 | 53 | | 9.37 532 | 56 | | 0.62 468 | | 9.98 810 | 3 | 39 | | | | |
| 22 | 9.36 395 | 53 | | 9.37 588 | 56 | | 0.62 412 | | 9.98 807 | 3 | 38 | | | | |
| 23 | 9.36 449 | 54 | | 9.37 644 | 56 | | 0.62 356 | | 9.98 804 | 3 | 37 | | 52 | 51 | |
| 24 | 9.36 502 | 53 | | 9.37 700 | 56 | | 0.62 300 | | 9.98 801 | 3 | 36 | 2 | 10.4 | 10.2 | |
| 25 | 9.36 555 | 53 | | 9.37 756 | 56 | | 0.62 244 | | 9.98 798 | 3 | 35 | 3 | 15.6 | 15.3 | |
| 26 | 9.36 608 | 52 | | 9.37 812 | 56 | | 0.62 188 | | 9.98 795 | 3 | 34 | 4 | 20.8 | 20.4 | |
| 27 | 9.36 660 | 52 | | 9.37 868 | 56 | | 0.62 132 | | 9.98 792 | 3 | 33 | 5 | 26.0 | 25.5 | |
| 28 | 9.36 713 | 53 | | 9.37 924 | 56 | | 0.62 076 | | 9.98 789 | 3 | 32 | 6 | 31.2 | 30.6 | |
| 29 | 9.36 766 | 53 | | 9.37 980 | 55 | | 0.62 020 | | 9.98 786 | 3 | 31 | 7 | 36.4 | 35.7 | |
| 30 | 9.36 819 | 52 | | 9.38 035 | 56 | | 0.61 965 | | 9.98 783 | 3 | 30 | 8 | 41.6 | 40.8 | |
| 31 | 9.36 871 | 53 | | 9.38 091 | 56 | | 0.61 909 | | 9.98 780 | 3 | 29 | 9 | 46.8 | 45.9 | |
| 32 | 9.36 924 | 52 | | 9.38 147 | 55 | | 0.61 853 | | 9.98 777 | 3 | 28 | | | | |
| 33 | 9.36 976 | 52 | | 9.38 202 | 55 | | 0.61 798 | | 9.98 774 | 3 | 27 | | | | |
| 34 | 9.37 028 | 52 | | 9.38 257 | 55 | | 0.61 743 | | 9.98 771 | 3 | 26 | | 4 | 3 | |
| 35 | 9.37 081 | 52 | | 9.38 313 | 55 | | 0.61 687 | | 9.98 768 | 3 | 25 | 2 | 0.8 | 0.6 | |
| 36 | 9.37 133 | 52 | | 9.38 368 | 55 | | 0.61 632 | | 9.98 765 | 3 | 24 | 3 | 1.2 | 0.9 | |
| 37 | 9.37 185 | 52 | | 9.38 423 | 55 | | 0.61 577 | | 9.98 762 | 3 | 23 | 4 | 1.6 | 1.2 | |
| 38 | 9.37 237 | 52 | | 9.38 479 | 55 | | 0.61 521 | | 9.98 759 | 3 | 22 | 5 | 2.0 | 1.5 | |
| 39 | 9.37 289 | 52 | | 9.38 534 | 55 | | 0.61 466 | | 9.98 756 | 3 | 21 | 6 | 2.4 | 1.8 | |
| 40 | 9.37 341 | 52 | | 9.38 589 | 55 | | 0.61 411 | | 9.98 753 | 3 | 20 | 7 | 2.8 | 2.1 | |
| 41 | 9.37 393 | 52 | | 9.38 644 | 55 | | 0.61 356 | | 9.98 750 | 3 | 19 | 8 | 3.2 | 2.4 | |
| 42 | 9.37 445 | 52 | | 9.38 699 | 55 | | 0.61 301 | | 9.98 746 | 4 | 18 | 9 | 3.6 | 2.7 | |
| 43 | 9.37 497 | 52 | | 9.38 754 | 54 | | 0.61 246 | | 9.98 743 | 3 | 17 | | | | |
| 44 | 9.37 549 | 51 | | 9.38 808 | 55 | | 0.61 192 | | 9.98 740 | 3 | 16 | | | | |
| 45 | 9.37 600 | 52 | | 9.38 863 | 55 | | 0.61 137 | | 9.98 737 | 3 | 15 | | | | |
| 46 | 9.37 652 | 51 | | 9.38 918 | 54 | | 0.61 082 | | 9.98 734 | 3 | 14 | | | | |
| 47 | 9.37 703 | 52 | | 9.38 972 | 55 | | 0.61 028 | | 9.98 731 | 3 | 13 | | | | |
| 48 | 9.37 755 | 51 | | 9.39 027 | 55 | | 0.60 973 | | 9.98 728 | 3 | 12 | | | | |
| 49 | 9.37 806 | 52 | | 9.39 082 | 54 | | 0.60 918 | | 9.98 725 | 3 | 11 | | | | |
| 50 | 9.37 858 | 51 | | 9.39 136 | 54 | | 0.60 864 | | 9.98 722 | 3 | 10 | | | | |
| 51 | 9.37 909 | 51 | | 9.39 190 | 55 | | 0.60 810 | | 9.98 719 | 3 | 9 | | | | |
| 52 | 9.37 960 | 51 | | 9.39 245 | 54 | | 0.60 755 | | 9.98 715 | 4 | 8 | | | | |
| 53 | 9.38 011 | 51 | | 9.39 299 | 54 | | 0.60 701 | | 9.98 712 | 3 | 7 | | | | |
| 54 | 9.38 062 | 51 | | 9.39 353 | 54 | | 0.60 647 | | 9.98 709 | 3 | 6 | | | | |
| 55 | 9.38 113 | 51 | | 9.39 407 | 54 | | 0.60 593 | | 9.98 706 | 3 | 5 | | | | |
| 56 | 9.38 164 | 51 | | 9.39 461 | 54 | | 0.60 539 | | 9.98 703 | 3 | 4 | | | | |
| 57 | 9.38 215 | 51 | | 9.39 515 | 54 | | 0.60 485 | | 9.98 700 | 3 | 3 | | | | |
| 58 | 9.38 266 | 51 | | 9.39 569 | 54 | | 0.60 431 | | 9.98 697 | 3 | 2 | | | | |
| 59 | 9.38 317 | 51 | | 9.39 623 | 54 | | 0.60 377 | | 9.98 694 | 4 | 1 | | | | |
| 60 | 9.38 368 | | | 9.39 677 | | | 0.60 323 | | 9.98 690 | | 0 | | | | |
| | L Cos | d | | L Ctn | c d | | L Tan | | L Sin | d | | Prop. Pts. | | | |

From the top:

For $13^{\circ+}$ or $193^{\circ+}$,
read as printed; for
 $103^{\circ+}$ or $283^{\circ+}$, read
co-function.

From the bottom:

For 76° or 256° ,
read as printed; for
 $166^{\circ+}$ or $346^{\circ+}$, read
co-function.

| | L Sin | d | L Tan | c d | L Ctn | L Cos | d | Prop. Pts. | | | | | | | |
|----|----------|----|----------|-----|----------|----------|---|------------|------------------|--|------|------------------|--|--|---|
| 0 | 9.38 368 | | 9.39 677 | | 0.60 323 | 9.98 690 | | 60 | | | | | | | |
| 1 | 9.38 418 | 50 | 9.39 731 | 54 | 0.60 269 | 9.98 687 | 3 | 2 | 54 | 53 | 52 | | | | |
| 2 | 9.38 469 | 51 | 9.39 785 | 54 | 0.60 215 | 9.98 684 | 3 | | | | | | | | |
| 3 | 9.38 519 | 50 | 9.39 838 | 53 | 0.60 162 | 9.98 681 | 3 | | | | | | | | |
| 4 | 9.38 570 | 51 | 9.39 892 | 54 | 0.60 108 | 9.98 678 | 3 | | | | | | | | |
| 5 | 9.38 620 | 50 | 9.39 945 | 53 | 0.60 055 | 9.98 675 | 3 | | | | | | | | |
| 6 | 9.38 670 | 50 | 9.39 999 | 54 | 0.60 001 | 9.98 671 | 4 | 55 | | | | | | | |
| 7 | 9.38 721 | 51 | 9.40 052 | 53 | 0.59 948 | 9.98 668 | 3 | 5 | 27.0 | 26.5 | 26.0 | | | | |
| 8 | 9.38 771 | 50 | 9.40 106 | 54 | 0.59 894 | 9.98 665 | 3 | 6 | 32.4 | 31.8 | 31.2 | | | | |
| 9 | 9.38 821 | 50 | 9.40 159 | 53 | 0.59 841 | 9.98 662 | 3 | 7 | 37.8 | 37.1 | 36.4 | | | | |
| | | 50 | | 53 | | | 3 | 8 | 43.2 | 42.4 | 41.6 | | | | |
| 10 | 9.38 871 | | 9.40 212 | | 0.59 788 | 9.98 659 | 3 | 9 | 48.6 | 47.7 | 46.8 | | | | |
| 11 | 9.38 921 | 50 | 9.40 266 | 54 | 0.59 734 | 9.98 656 | 3 | 50 | | | | | | | |
| 12 | 9.38 971 | 50 | 9.40 319 | 53 | 0.59 681 | 9.98 652 | 4 | 2 | 51 | 50 | 49 | | | | |
| 13 | 9.39 021 | 50 | 9.40 372 | 53 | 0.59 628 | 9.98 649 | 3 | | | | | | | | |
| 14 | 9.39 071 | 50 | 9.40 425 | 53 | 0.59 575 | 9.98 646 | 3 | | | | | | | | |
| 15 | 9.39 121 | 50 | 9.40 478 | 53 | 0.59 522 | 9.98 643 | 3 | | | | | | | | |
| 16 | 9.39 170 | 49 | 9.40 531 | 53 | 0.59 469 | 9.98 640 | 3 | | | | | | | | |
| 17 | 9.39 220 | 50 | 9.40 584 | 53 | 0.59 416 | 9.98 636 | 4 | 45 | | | | | | | |
| 18 | 9.39 270 | 50 | 9.40 636 | 52 | 0.59 364 | 9.98 633 | 4 | 4 | 20.4 | 20.0 | 19.6 | | | | |
| 19 | 9.39 319 | 49 | 9.40 689 | 53 | 0.59 311 | 9.98 630 | 3 | 5 | 25.5 | 25.0 | 24.5 | | | | |
| | | 50 | | 53 | | | 3 | 6 | 30.6 | 30.0 | 29.4 | | | | |
| 20 | 9.39 369 | | 9.40 742 | | 0.59 258 | 9.98 627 | 3 | 7 | 35.7 | 35.0 | 34.3 | | | | |
| 21 | 9.39 418 | 49 | 9.40 795 | 53 | 0.59 205 | 9.98 623 | 4 | 8 | 40.8 | 40.0 | 39.2 | | | | |
| 22 | 9.39 467 | 49 | 9.40 847 | 52 | 0.59 153 | 9.98 620 | 3 | 9 | 45.9 | 45.0 | 44.1 | | | | |
| 23 | 9.39 517 | 50 | 9.40 900 | 53 | 0.59 100 | 9.98 617 | 3 | 40 | | | | | | | |
| 24 | 9.39 566 | 49 | 9.40 952 | 52 | 0.59 048 | 9.98 614 | 3 | 2 | 48 | 47 | | | | | |
| 25 | 9.39 615 | 49 | 9.41 005 | 53 | 0.58 995 | 9.98 610 | 3 | | | | | | | | |
| 26 | 9.39 664 | 49 | 9.41 057 | 52 | 0.58 943 | 9.98 607 | 3 | | | | | | | | |
| 27 | 9.39 713 | 49 | 9.41 109 | 52 | 0.58 891 | 9.98 604 | 3 | | | | | | | | |
| 28 | 9.39 762 | 49 | 9.41 161 | 52 | 0.58 839 | 9.98 601 | 3 | | | | | | | | |
| 29 | 9.39 811 | 49 | 9.41 214 | 53 | 0.58 786 | 9.98 597 | 4 | 35 | | | | | | | |
| 30 | 9.39 860 | 49 | 9.41 266 | 52 | 0.58 734 | 9.98 594 | 3 | 3 | 14.4 | 14.1 | | | | | |
| 31 | 9.39 909 | 49 | 9.41 318 | 52 | 0.58 682 | 9.98 591 | 3 | 4 | 19.2 | 18.8 | | | | | |
| 32 | 9.39 958 | 49 | 9.41 370 | 52 | 0.58 630 | 9.98 588 | 3 | 5 | 24.0 | 23.5 | | | | | |
| 33 | 9.40 006 | 48 | 9.41 422 | 52 | 0.58 578 | 9.98 584 | 3 | 6 | 28.8 | 28.2 | | | | | |
| 34 | 9.40 055 | 49 | 9.41 474 | 52 | 0.58 526 | 9.98 581 | 4 | 7 | 33.6 | 32.9 | | | | | |
| | | 48 | | 52 | | | 3 | 8 | 38.4 | 37.6 | | | | | |
| 35 | 9.40 103 | | 9.41 526 | | 0.58 474 | 9.98 578 | 3 | 9 | 43.2 | 42.3 | | | | | |
| 36 | 9.40 152 | 49 | 9.41 578 | 52 | 0.58 422 | 9.98 574 | 3 | 30 | | | | | | | |
| 37 | 9.40 200 | 48 | 9.41 629 | 51 | 0.58 371 | 9.98 571 | 3 | 2 | 4 | 3 | | | | | |
| 38 | 9.40 249 | 49 | 9.41 681 | 52 | 0.58 319 | 9.98 568 | 3 | | | | | | | | |
| 39 | 9.40 297 | 48 | 9.41 733 | 52 | 0.58 267 | 9.98 565 | 3 | | | | | | | | |
| 40 | 9.40 346 | 49 | 9.41 784 | 51 | 0.58 216 | 9.98 561 | 4 | | | | | | | | |
| 41 | 9.40 394 | 48 | 9.41 836 | 52 | 0.58 164 | 9.98 558 | 3 | | | | | 25 | | | |
| 42 | 9.40 442 | 48 | 9.41 887 | 51 | 0.58 113 | 9.98 555 | 4 | 3 | | | | 1.2 | 0.9 | | |
| 43 | 9.40 490 | 48 | 9.41 939 | 52 | 0.58 061 | 9.98 551 | 3 | 4 | 1.6 | 1.2 | | | | | |
| 44 | 9.40 538 | 48 | 9.41 990 | 51 | 0.58 010 | 9.98 548 | 3 | 5 | 2.0 | 1.5 | | | | | |
| | | 48 | | 51 | | | 4 | 6 | 2.4 | 1.8 | | | | | |
| 45 | 9.40 586 | | 9.42 041 | | 0.57 959 | 9.98 545 | 3 | 7 | 2.8 | 2.1 | | | | | |
| 46 | 9.40 634 | 48 | 9.42 093 | 52 | 0.57 907 | 9.98 541 | 3 | 8 | 3.2 | 2.4 | | | | | |
| 47 | 9.40 682 | 48 | 9.42 144 | 51 | 0.57 856 | 9.98 538 | 3 | 9 | 3.6 | 2.7 | | | | | |
| 48 | 9.40 730 | 48 | 9.42 195 | 51 | 0.57 805 | 9.98 535 | 3 | 20 | | | | | | | |
| 49 | 9.40 778 | 48 | 9.42 246 | 51 | 0.57 754 | 9.98 531 | 4 | 2 | From the top: | For 14°+ or 194°+, read as printed; for 104°+ or 284°+, read co-function. | | | | | |
| 50 | 9.40 825 | 47 | 9.42 297 | 51 | 0.57 703 | 9.98 528 | 3 | | | | | | | | |
| 51 | 9.40 873 | 48 | 9.42 348 | 51 | 0.57 652 | 9.98 525 | 3 | | | | | | | | |
| 52 | 9.40 921 | 48 | 9.42 399 | 51 | 0.57 601 | 9.98 521 | 4 | | | | | | | | |
| 53 | 9.40 968 | 47 | 9.42 450 | 51 | 0.57 550 | 9.98 518 | 3 | | | | | 15 | | | |
| 54 | 9.41 016 | 48 | 9.42 501 | 51 | 0.57 499 | 9.98 515 | 3 | 2 | | | | From the bottom: | For 75°+ or 255°+, read as printed; for 165°+ or 345°+, read co-function. | | |
| 55 | 9.41 063 | 47 | 9.42 552 | 51 | 0.57 448 | 9.98 511 | 4 | | | | | | | | |
| 56 | 9.41 111 | 48 | 9.42 603 | 51 | 0.57 397 | 9.98 508 | 3 | | | | | | | | |
| 57 | 9.41 158 | 47 | 9.42 653 | 50 | 0.57 347 | 9.98 505 | 3 | | | | | | | | |
| 58 | 9.41 205 | 47 | 9.42 704 | 51 | 0.57 296 | 9.98 501 | 3 | | 10 | | | | | | |
| 59 | 9.41 252 | 47 | 9.42 755 | 51 | 0.57 245 | 9.98 498 | 3 | 2 | From the bottom: | For 75°+ or 255°+, read as printed; for 165°+ or 345°+, read co-function. | | | | | |
| 60 | 9.41 300 | 48 | 9.42 805 | 50 | 0.57 195 | 9.98 494 | 4 | | | | | | | | |
| | | | | | | | 4 | | | | | | | | 5 |
| | | | | | | | 3 | | | | | 4 | | | |
| | | | | | | | 3 | | | | | 3 | | | |
| | | | | | | | 2 | 2 | | | | | | | |
| | | | | | | | 1 | 1 | | | | | | | |
| | | | | | | | 0 | 0 | | | | | | | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | d | Prop. Pts. | | | | | | | |

| <i>l</i> | L Sin | <i>d</i> | L Tan | <i>c d</i> | L Ctn | L Cos | <i>d</i> | Prop. Pts. | | | |
|-----------|----------|----------|----------|------------|----------|----------|-----------|------------|-----------|-----------|-----------|
| 0 | 9.44 034 | | 9.45 750 | | 0.54 250 | 9.98 284 | 60 | | | | |
| 1 | 9.44 078 | 44 | 9.45 797 | 47 | 0.54 203 | 9.98 281 | 59 | | | | |
| 2 | 9.44 122 | 44 | 9.45 845 | 48 | 0.54 155 | 9.98 277 | 58 | | 48 | 47 | 46 |
| 3 | 9.44 166 | 44 | 9.45 892 | 47 | 0.54 108 | 9.98 273 | 57 | 2 | 9.6 | 9.4 | 9.2 |
| 4 | 9.44 210 | 44 | 9.45 940 | 48 | 0.54 060 | 9.98 270 | 56 | 3 | 14.4 | 14.1 | 13.8 |
| 5 | 9.44 253 | 43 | 9.45 987 | 47 | 0.54 013 | 9.98 266 | 55 | 4 | 19.2 | 18.8 | 18.4 |
| 6 | 9.44 297 | 44 | 9.46 035 | 48 | 0.53 965 | 9.98 262 | 54 | 5 | 24.0 | 23.5 | 23.0 |
| 7 | 9.44 341 | 44 | 9.46 082 | 47 | 0.53 918 | 9.98 259 | 53 | 6 | 28.8 | 28.2 | 27.6 |
| 8 | 9.44 385 | 44 | 9.46 130 | 48 | 0.53 870 | 9.98 255 | 52 | 7 | 33.6 | 32.9 | 32.2 |
| 9 | 9.44 428 | 43 | 9.46 177 | 47 | 0.53 823 | 9.98 251 | 51 | 8 | 38.4 | 37.6 | 36.8 |
| 10 | 9.44 472 | 44 | 9.46 224 | 47 | 0.53 776 | 9.98 248 | 50 | 9 | 43.2 | 42.3 | 41.4 |
| 11 | 9.44 516 | 44 | 9.46 271 | 47 | 0.53 729 | 9.98 244 | 49 | | | | |
| 12 | 9.44 559 | 43 | 9.46 319 | 48 | 0.53 681 | 9.98 240 | 48 | | 45 | 44 | 43 |
| 13 | 9.44 602 | 43 | 9.46 366 | 47 | 0.53 634 | 9.98 237 | 47 | 2 | 9.0 | 8.8 | 8.6 |
| 14 | 9.44 646 | 44 | 9.46 413 | 47 | 0.53 587 | 9.98 233 | 46 | 3 | 13.5 | 13.2 | 12.9 |
| 15 | 9.44 689 | 43 | 9.46 460 | 47 | 0.53 540 | 9.98 229 | 45 | 4 | 18.0 | 17.6 | 17.2 |
| 16 | 9.44 733 | 44 | 9.46 507 | 47 | 0.53 493 | 9.98 226 | 44 | 5 | 22.5 | 22.0 | 21.5 |
| 17 | 9.44 776 | 43 | 9.46 554 | 47 | 0.53 446 | 9.98 222 | 43 | 6 | 27.0 | 26.4 | 25.8 |
| 18 | 9.44 819 | 43 | 9.46 601 | 47 | 0.53 399 | 9.98 218 | 42 | 7 | 31.5 | 30.8 | 30.1 |
| 19 | 9.44 862 | 43 | 9.46 648 | 47 | 0.53 352 | 9.98 215 | 41 | 8 | 36.0 | 35.2 | 34.4 |
| 20 | 9.44 905 | 43 | 9.46 694 | 46 | 0.53 306 | 9.98 211 | 40 | 9 | 40.5 | 39.6 | 38.7 |
| 21 | 9.44 948 | 43 | 9.46 741 | 47 | 0.53 259 | 9.98 207 | 39 | | | | |
| 22 | 9.44 992 | 44 | 9.46 788 | 47 | 0.53 212 | 9.98 204 | 38 | | | | |
| 23 | 9.45 035 | 43 | 9.46 835 | 47 | 0.53 165 | 9.98 200 | 37 | | 42 | 41 | |
| 24 | 9.45 077 | 42 | 9.46 881 | 46 | 0.53 119 | 9.98 196 | 36 | 2 | 8.4 | 8.2 | |
| 25 | 9.45 120 | 43 | 9.46 928 | 47 | 0.53 072 | 9.98 192 | 35 | 3 | 12.6 | 12.3 | |
| 26 | 9.45 163 | 43 | 9.46 975 | 47 | 0.53 025 | 9.98 189 | 34 | 4 | 16.8 | 16.4 | |
| 27 | 9.45 206 | 43 | 9.47 021 | 46 | 0.52 979 | 9.98 185 | 33 | 5 | 21.0 | 20.5 | |
| 28 | 9.45 249 | 43 | 9.47 068 | 47 | 0.52 932 | 9.98 181 | 32 | 6 | 25.2 | 24.6 | |
| 29 | 9.45 292 | 42 | 9.47 114 | 46 | 0.52 886 | 9.98 177 | 31 | 7 | 29.4 | 28.7 | |
| 30 | 9.45 334 | 43 | 9.47 160 | 46 | 0.52 840 | 9.98 174 | 30 | 8 | 33.6 | 32.8 | |
| 31 | 9.45 377 | 43 | 9.47 207 | 47 | 0.52 793 | 9.98 170 | 29 | 9 | 37.8 | 36.9 | |
| 32 | 9.45 419 | 42 | 9.47 253 | 46 | 0.52 747 | 9.98 166 | 28 | | | | |
| 33 | 9.45 462 | 43 | 9.47 299 | 46 | 0.52 701 | 9.98 162 | 27 | | | | |
| 34 | 9.45 504 | 42 | 9.47 346 | 47 | 0.52 654 | 9.98 159 | 26 | | 4 | 3 | |
| 35 | 9.45 547 | 43 | 9.47 392 | 46 | 0.52 608 | 9.98 155 | 25 | 2 | 0.8 | 0.6 | |
| 36 | 9.45 589 | 42 | 9.47 438 | 46 | 0.52 562 | 9.98 151 | 24 | 3 | 1.2 | 0.9 | |
| 37 | 9.45 632 | 43 | 9.47 484 | 46 | 0.52 516 | 9.98 147 | 23 | 4 | 1.6 | 1.2 | |
| 38 | 9.45 674 | 42 | 9.47 530 | 46 | 0.52 470 | 9.98 144 | 22 | 5 | 2.0 | 1.5 | |
| 39 | 9.45 716 | 42 | 9.47 576 | 46 | 0.52 424 | 9.98 140 | 21 | 6 | 2.4 | 1.8 | |
| 40 | 9.45 758 | 42 | 9.47 622 | 46 | 0.52 378 | 9.98 136 | 20 | 7 | 2.8 | 2.1 | |
| 41 | 9.45 801 | 43 | 9.47 668 | 46 | 0.52 332 | 9.98 132 | 19 | 8 | 3.2 | 2.4 | |
| 42 | 9.45 843 | 42 | 9.47 714 | 46 | 0.52 286 | 9.98 129 | 18 | 9 | 3.6 | 2.7 | |
| 43 | 9.45 885 | 42 | 9.47 760 | 46 | 0.52 240 | 9.98 125 | 17 | | | | |
| 44 | 9.45 927 | 42 | 9.47 806 | 46 | 0.52 194 | 9.98 121 | 16 | | | | |
| 45 | 9.45 969 | 42 | 9.47 852 | 45 | 0.52 148 | 9.98 117 | 15 | | | | |
| 46 | 9.46 011 | 42 | 9.47 897 | 46 | 0.52 103 | 9.98 113 | 14 | | | | |
| 47 | 9.46 053 | 42 | 9.47 943 | 46 | 0.52 057 | 9.98 110 | 13 | | | | |
| 48 | 9.46 095 | 41 | 9.47 989 | 46 | 0.52 011 | 9.98 106 | 12 | | | | |
| 49 | 9.46 136 | 42 | 9.48 035 | 45 | 0.51 965 | 9.98 102 | 11 | | | | |
| 50 | 9.46 178 | 42 | 9.48 080 | 46 | 0.51 920 | 9.98 098 | 10 | | | | |
| 51 | 9.46 220 | 42 | 9.48 126 | 45 | 0.51 874 | 9.98 094 | 9 | | | | |
| 52 | 9.46 262 | 41 | 9.48 171 | 46 | 0.51 829 | 9.98 090 | 8 | | | | |
| 53 | 9.46 303 | 42 | 9.48 217 | 46 | 0.51 783 | 9.98 087 | 7 | | | | |
| 54 | 9.46 345 | 41 | 9.48 262 | 45 | 0.51 738 | 9.98 083 | 6 | | | | |
| 55 | 9.46 386 | 42 | 9.48 307 | 46 | 0.51 693 | 9.98 079 | 5 | | | | |
| 56 | 9.46 428 | 41 | 9.48 353 | 45 | 0.51 647 | 9.98 075 | 4 | | | | |
| 57 | 9.46 469 | 42 | 9.48 398 | 45 | 0.51 602 | 9.98 071 | 3 | | | | |
| 58 | 9.46 511 | 41 | 9.48 443 | 46 | 0.51 557 | 9.98 067 | 2 | | | | |
| 59 | 9.46 552 | 42 | 9.48 489 | 45 | 0.51 511 | 9.98 063 | 1 | | | | |
| 60 | 9.46 594 | | 9.48 534 | | 0.51 466 | 9.98 060 | 0 | | | | |
| | L Cos | <i>d</i> | L Ctn | <i>c d</i> | L Tan | L Sin | <i>d</i> | Prop. Pts. | | | |

From the top :

For $16^{\circ+}$ or $196^{\circ+}$,
read as printed; for
 $106^{\circ+}$ or $286^{\circ+}$, read
co-function.

From the bottom :

For $73^{\circ+}$ or $253^{\circ+}$,
read as printed; for
 $163^{\circ+}$ or $343^{\circ+}$, read
co-function.

| | L Sin | d | L Tan | c d | L Ctn | L Cos | d | | Prop. Pts. | | | |
|----|----------|----|----------|-----|----------|----------|---|----|------------|------|------|------|
| 0 | 9.46 594 | 41 | 9.48 534 | 45 | 0.51 466 | 9.98 060 | 4 | 60 | | | | |
| 1 | 9.46 635 | 41 | 9.48 579 | 45 | 0.51 421 | 9.98 056 | 4 | 59 | | | | |
| 2 | 9.46 676 | 41 | 9.48 624 | 45 | 0.51 376 | 9.98 052 | 4 | 58 | | | | |
| 3 | 9.46 717 | 41 | 9.48 669 | 45 | 0.51 331 | 9.98 048 | 4 | 57 | 2 | 9.0 | 8.8 | 8.6 |
| 4 | 9.46 758 | 42 | 9.48 714 | 45 | 0.51 286 | 9.98 044 | 4 | 56 | 3 | 13.5 | 13.2 | 12.9 |
| 5 | 9.46 800 | 41 | 9.48 759 | 45 | 0.51 241 | 9.98 040 | 4 | 55 | 4 | 18.0 | 17.6 | 17.2 |
| 6 | 9.46 841 | 41 | 9.48 804 | 45 | 0.51 196 | 9.98 036 | 4 | 54 | 5 | 22.5 | 22.0 | 21.5 |
| 7 | 9.46 882 | 41 | 9.48 849 | 45 | 0.51 151 | 9.98 032 | 4 | 53 | 6 | 27.0 | 26.4 | 25.8 |
| 8 | 9.46 923 | 41 | 9.48 894 | 45 | 0.51 106 | 9.98 029 | 3 | 52 | 7 | 31.5 | 30.8 | 30.1 |
| 9 | 9.46 964 | 41 | 9.48 939 | 45 | 0.51 061 | 9.98 025 | 4 | 51 | 8 | 36.0 | 35.2 | 34.4 |
| 10 | 9.47 005 | 41 | 9.48 984 | 45 | 0.51 016 | 9.98 021 | 4 | 50 | 9 | 40.5 | 39.6 | 38.7 |
| 11 | 9.47 045 | 40 | 9.49 029 | 45 | 0.50 971 | 9.98 017 | 4 | 49 | | | | |
| 12 | 9.47 086 | 41 | 9.49 073 | 44 | 0.50 927 | 9.98 013 | 4 | 48 | | | | |
| 13 | 9.47 127 | 41 | 9.49 118 | 45 | 0.50 882 | 9.98 009 | 4 | 47 | | | | |
| 14 | 9.47 168 | 41 | 9.49 163 | 44 | 0.50 837 | 9.98 005 | 4 | 46 | 2 | 8.4 | 8.2 | 8.0 |
| 15 | 9.47 209 | 40 | 9.49 207 | 45 | 0.50 793 | 9.98 001 | 4 | 45 | 3 | 12.6 | 12.3 | 12.0 |
| 16 | 9.47 249 | 41 | 9.49 252 | 44 | 0.50 748 | 9.97 997 | 4 | 44 | 4 | 16.8 | 16.4 | 16.0 |
| 17 | 9.47 290 | 40 | 9.49 296 | 45 | 0.50 704 | 9.97 993 | 4 | 43 | 5 | 21.0 | 20.5 | 20.0 |
| 18 | 9.47 330 | 41 | 9.49 341 | 44 | 0.50 659 | 9.97 989 | 4 | 42 | 6 | 25.2 | 24.6 | 24.0 |
| 19 | 9.47 371 | 40 | 9.49 385 | 45 | 0.50 615 | 9.97 986 | 3 | 41 | 7 | 29.4 | 28.7 | 28.0 |
| 20 | 9.47 411 | 41 | 9.49 430 | 44 | 0.50 570 | 9.97 982 | 4 | 40 | 8 | 33.6 | 32.8 | 32.0 |
| 21 | 9.47 452 | 40 | 9.49 474 | 45 | 0.50 526 | 9.97 978 | 4 | 39 | 9 | 37.8 | 36.9 | 36.0 |
| 22 | 9.47 492 | 41 | 9.49 519 | 44 | 0.50 481 | 9.97 974 | 4 | 38 | | | | |
| 23 | 9.47 533 | 40 | 9.49 563 | 44 | 0.50 437 | 9.97 970 | 4 | 37 | | | | |
| 24 | 9.47 573 | 40 | 9.49 607 | 45 | 0.50 393 | 9.97 966 | 4 | 36 | | | | |
| 25 | 9.47 613 | 41 | 9.49 652 | 44 | 0.50 348 | 9.97 962 | 4 | 35 | 2 | 7.8 | 7.6 | 7.4 |
| 26 | 9.47 654 | 40 | 9.49 696 | 44 | 0.50 304 | 9.97 958 | 4 | 34 | 3 | 11.7 | 11.5 | 11.3 |
| 27 | 9.47 694 | 40 | 9.49 740 | 44 | 0.50 260 | 9.97 954 | 4 | 33 | 4 | 15.6 | 15.3 | 15.0 |
| 28 | 9.47 734 | 40 | 9.49 784 | 44 | 0.50 216 | 9.97 950 | 4 | 32 | 5 | 19.5 | 19.1 | 18.7 |
| 29 | 9.47 774 | 40 | 9.49 828 | 44 | 0.50 172 | 9.97 946 | 4 | 31 | 6 | 23.4 | 22.9 | 22.4 |
| 30 | 9.47 814 | 40 | 9.49 872 | 44 | 0.50 128 | 9.97 942 | 4 | 30 | 7 | 27.3 | 26.7 | 26.1 |
| 31 | 9.47 854 | 40 | 9.49 916 | 44 | 0.50 084 | 9.97 938 | 4 | 29 | 8 | 31.2 | 30.5 | 29.8 |
| 32 | 9.47 894 | 40 | 9.49 960 | 44 | 0.50 040 | 9.97 934 | 4 | 28 | 9 | 35.1 | 34.3 | 33.5 |
| 33 | 9.47 934 | 40 | 9.50 004 | 44 | 0.49 996 | 9.97 930 | 4 | 27 | | | | |
| 34 | 9.47 974 | 40 | 9.50 048 | 44 | 0.49 952 | 9.97 926 | 4 | 26 | | | | |
| 35 | 9.48 014 | 40 | 9.50 092 | 44 | 0.49 908 | 9.97 922 | 4 | 25 | 2 | 0.8 | 0.8 | 0.6 |
| 36 | 9.48 054 | 40 | 9.50 136 | 44 | 0.49 864 | 9.97 918 | 4 | 24 | 3 | 1.2 | 1.2 | 0.9 |
| 37 | 9.48 094 | 39 | 9.50 180 | 44 | 0.49 820 | 9.97 914 | 4 | 23 | 4 | 1.6 | 1.6 | 1.2 |
| 38 | 9.48 133 | 39 | 9.50 223 | 43 | 0.49 777 | 9.97 910 | 4 | 22 | 5 | 2.0 | 2.0 | 1.5 |
| 39 | 9.48 173 | 40 | 9.50 267 | 44 | 0.49 733 | 9.97 906 | 4 | 21 | 6 | 2.4 | 2.4 | 1.8 |
| 40 | 9.48 213 | 39 | 9.50 311 | 44 | 0.49 689 | 9.97 902 | 4 | 20 | 7 | 2.8 | 2.8 | 2.1 |
| 41 | 9.48 252 | 40 | 9.50 355 | 43 | 0.49 645 | 9.97 898 | 4 | 19 | 8 | 3.2 | 3.2 | 2.4 |
| 42 | 9.48 292 | 40 | 9.50 398 | 44 | 0.49 602 | 9.97 894 | 4 | 18 | 9 | 3.6 | 3.6 | 2.7 |
| 43 | 9.48 332 | 39 | 9.50 442 | 44 | 0.49 558 | 9.97 890 | 4 | 17 | | | | |
| 44 | 9.48 371 | 40 | 9.50 485 | 44 | 0.49 515 | 9.97 886 | 4 | 16 | | | | |
| 45 | 9.48 411 | 39 | 9.50 529 | 43 | 0.49 471 | 9.97 882 | 4 | 15 | | | | |
| 46 | 9.48 450 | 40 | 9.50 572 | 44 | 0.49 428 | 9.97 878 | 4 | 14 | | | | |
| 47 | 9.48 490 | 39 | 9.50 616 | 43 | 0.49 384 | 9.97 874 | 4 | 13 | | | | |
| 48 | 9.48 529 | 39 | 9.50 659 | 44 | 0.49 341 | 9.97 870 | 4 | 12 | | | | |
| 49 | 9.48 568 | 39 | 9.50 703 | 43 | 0.49 297 | 9.97 866 | 5 | 11 | | | | |
| 50 | 9.48 607 | 40 | 9.50 746 | 43 | 0.49 254 | 9.97 861 | 4 | 10 | | | | |
| 51 | 9.48 647 | 39 | 9.50 789 | 44 | 0.49 211 | 9.97 857 | 4 | 9 | | | | |
| 52 | 9.48 686 | 39 | 9.50 833 | 43 | 0.49 167 | 9.97 853 | 4 | 8 | | | | |
| 53 | 9.48 725 | 39 | 9.50 876 | 43 | 0.49 124 | 9.97 849 | 4 | 7 | | | | |
| 54 | 9.48 764 | 39 | 9.50 919 | 43 | 0.49 081 | 9.97 845 | 4 | 6 | | | | |
| 55 | 9.48 803 | 39 | 9.50 962 | 43 | 0.49 038 | 9.97 841 | 4 | 5 | | | | |
| 56 | 9.48 842 | 39 | 9.51 005 | 43 | 0.48 995 | 9.97 837 | 4 | 4 | | | | |
| 57 | 9.48 881 | 39 | 9.51 048 | 44 | 0.48 952 | 9.97 833 | 4 | 3 | | | | |
| 58 | 9.48 920 | 39 | 9.51 092 | 43 | 0.48 908 | 9.97 829 | 4 | 2 | | | | |
| 59 | 9.48 959 | 39 | 9.51 135 | 43 | 0.48 865 | 9.97 825 | 4 | 1 | | | | |
| 60 | 9.48 998 | | 9.51 178 | | 0.48 822 | 9.97 821 | | 0 | | | | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | d | | Prop. Pts. | | | |

From the top :

For 17°+ or 197°+,
read as printed ; for
107°+ or 287°+, read
co-function.

From the bottom :

For 72°+ or 252°+,
read as printed ; for
162°+ or 342°+, read
co-function.

| <i>l</i> | L Sin | <i>d</i> | L Tan | <i>c d</i> | L Ctn | L Cos | <i>d</i> | Prop. Pts. | | | |
|-----------|----------|----------|----------|------------|----------|----------|----------|------------|------------|-----------|-----------|
| 0 | 9.48 998 | | 9.51 178 | | 0.48 822 | 9.97 821 | | 60 | | | |
| 1 | 9.49 037 | 39 | 9.51 221 | 43 | 0.48 779 | 9.97 817 | 4 | 59 | | | |
| 2 | 9.49 076 | 39 | 9.51 264 | 43 | 0.48 736 | 9.97 812 | 5 | 58 | | | |
| 3 | 9.49 115 | 39 | 9.51 306 | 42 | 0.48 694 | 9.97 808 | 4 | 57 | | | |
| 4 | 9.49 153 | 38 | 9.51 349 | 43 | 0.48 651 | 9.97 804 | 4 | 56 | | | |
| 5 | 9.49 192 | 39 | 9.51 392 | 43 | 0.48 608 | 9.97 800 | 4 | 55 | 43 | 42 | 41 |
| 6 | 9.49 231 | 39 | 9.51 435 | 43 | 0.48 565 | 9.97 796 | 4 | 54 | 2 | 8.6 | 8.4 |
| 7 | 9.49 269 | 38 | 9.51 478 | 43 | 0.48 522 | 9.97 792 | 4 | 53 | 3 | 12.9 | 12.6 |
| 8 | 9.49 308 | 39 | 9.51 520 | 42 | 0.48 480 | 9.97 788 | 4 | 52 | 4 | 17.2 | 16.8 |
| 9 | 9.49 347 | 39 | 9.51 563 | 43 | 0.48 437 | 9.97 784 | 4 | 51 | 5 | 21.5 | 21.0 |
| 10 | 9.49 385 | 38 | 9.51 606 | 43 | 0.48 394 | 9.97 779 | 5 | 50 | 6 | 25.8 | 25.2 |
| 11 | 9.49 424 | 39 | 9.51 648 | 42 | 0.48 352 | 9.97 775 | 4 | 49 | 7 | 30.1 | 29.4 |
| 12 | 9.49 462 | 38 | 9.51 691 | 43 | 0.48 309 | 9.97 771 | 4 | 48 | 8 | 34.4 | 33.6 |
| 13 | 9.49 500 | 38 | 9.51 734 | 43 | 0.48 266 | 9.97 767 | 4 | 47 | 9 | 38.7 | 37.8 |
| 14 | 9.49 539 | 39 | 9.51 776 | 42 | 0.48 224 | 9.97 763 | 4 | 46 | | | |
| 15 | 9.49 577 | 38 | 9.51 819 | 43 | 0.48 181 | 9.97 759 | 4 | 45 | | | |
| 16 | 9.49 615 | 38 | 9.51 861 | 42 | 0.48 139 | 9.97 754 | 5 | 44 | | | |
| 17 | 9.49 654 | 39 | 9.51 903 | 42 | 0.48 097 | 9.97 750 | 4 | 43 | | | |
| 18 | 9.49 692 | 38 | 9.51 946 | 43 | 0.48 054 | 9.97 746 | 4 | 42 | | | |
| 19 | 9.49 730 | 38 | 9.51 988 | 42 | 0.48 012 | 9.97 742 | 4 | 41 | | | |
| 20 | 9.49 768 | 38 | 9.52 031 | 43 | 0.47 969 | 9.97 738 | 4 | 40 | | | |
| 21 | 9.49 806 | 38 | 9.52 073 | 42 | 0.47 927 | 9.97 734 | 4 | 39 | | | |
| 22 | 9.49 844 | 38 | 9.52 115 | 42 | 0.47 885 | 9.97 729 | 5 | 38 | | | |
| 23 | 9.49 882 | 38 | 9.52 157 | 42 | 0.47 843 | 9.97 725 | 4 | 37 | | | |
| 24 | 9.49 920 | 38 | 9.52 200 | 43 | 0.47 800 | 9.97 721 | 4 | 36 | | | |
| 25 | 9.49 958 | 38 | 9.52 242 | 42 | 0.47 758 | 9.97 717 | 4 | 35 | | | |
| 26 | 9.49 996 | 38 | 9.52 284 | 42 | 0.47 716 | 9.97 713 | 4 | 34 | | | |
| 27 | 9.50 034 | 38 | 9.52 326 | 42 | 0.47 674 | 9.97 708 | 5 | 33 | | | |
| 28 | 9.50 072 | 38 | 9.52 368 | 42 | 0.47 632 | 9.97 704 | 4 | 32 | | | |
| 29 | 9.50 110 | 38 | 9.52 410 | 42 | 0.47 590 | 9.97 700 | 4 | 31 | | | |
| 30 | 9.50 148 | 37 | 9.52 452 | 42 | 0.47 548 | 9.97 696 | 4 | 30 | | | |
| 31 | 9.50 185 | 37 | 9.52 494 | 42 | 0.47 506 | 9.97 691 | 5 | 29 | | | |
| 32 | 9.50 223 | 38 | 9.52 536 | 42 | 0.47 464 | 9.97 687 | 4 | 28 | | | |
| 33 | 9.50 261 | 38 | 9.52 578 | 42 | 0.47 422 | 9.97 683 | 4 | 27 | | | |
| 34 | 9.50 298 | 38 | 9.52 620 | 42 | 0.47 380 | 9.97 679 | 4 | 26 | | | |
| 35 | 9.50 336 | 38 | 9.52 661 | 41 | 0.47 339 | 9.97 674 | 5 | 25 | | | |
| 36 | 9.50 374 | 38 | 9.52 703 | 42 | 0.47 297 | 9.97 670 | 4 | 24 | | | |
| 37 | 9.50 411 | 37 | 9.52 745 | 42 | 0.47 255 | 9.97 666 | 4 | 23 | | | |
| 38 | 9.50 449 | 38 | 9.52 787 | 42 | 0.47 213 | 9.97 662 | 4 | 22 | | | |
| 39 | 9.50 486 | 37 | 9.52 829 | 42 | 0.47 171 | 9.97 657 | 5 | 21 | | | |
| 40 | 9.50 523 | 37 | 9.52 870 | 41 | 0.47 130 | 9.97 653 | 4 | 20 | | | |
| 41 | 9.50 561 | 38 | 9.52 912 | 42 | 0.47 088 | 9.97 649 | 4 | 19 | | | |
| 42 | 9.50 598 | 37 | 9.52 953 | 41 | 0.47 047 | 9.97 645 | 4 | 18 | | | |
| 43 | 9.50 635 | 37 | 9.52 995 | 42 | 0.47 005 | 9.97 640 | 5 | 17 | | | |
| 44 | 9.50 673 | 38 | 9.53 037 | 42 | 0.46 963 | 9.97 636 | 4 | 16 | | | |
| 45 | 9.50 710 | 37 | 9.53 078 | 41 | 0.46 922 | 9.97 632 | 4 | 15 | | | |
| 46 | 9.50 747 | 37 | 9.53 120 | 42 | 0.46 880 | 9.97 628 | 4 | 14 | | | |
| 47 | 9.50 784 | 37 | 9.53 161 | 41 | 0.46 839 | 9.97 623 | 5 | 13 | | | |
| 48 | 9.50 821 | 37 | 9.53 202 | 41 | 0.46 798 | 9.97 619 | 4 | 12 | | | |
| 49 | 9.50 858 | 37 | 9.53 244 | 42 | 0.46 756 | 9.97 615 | 4 | 11 | | | |
| 50 | 9.50 896 | 38 | 9.53 285 | 41 | 0.46 715 | 9.97 610 | 5 | 10 | | | |
| 51 | 9.50 933 | 37 | 9.53 327 | 42 | 0.46 673 | 9.97 606 | 4 | 9 | | | |
| 52 | 9.50 970 | 37 | 9.53 368 | 41 | 0.46 632 | 9.97 602 | 4 | 8 | | | |
| 53 | 9.51 007 | 37 | 9.53 409 | 41 | 0.46 591 | 9.97 597 | 5 | 7 | | | |
| 54 | 9.51 043 | 36 | 9.53 450 | 41 | 0.46 550 | 9.97 593 | 4 | 6 | | | |
| 55 | 9.51 080 | 37 | 9.53 492 | 42 | 0.46 508 | 9.97 589 | 4 | 5 | | | |
| 56 | 9.51 117 | 37 | 9.53 533 | 41 | 0.46 467 | 9.97 584 | 5 | 4 | | | |
| 57 | 9.51 154 | 37 | 9.53 574 | 41 | 0.46 426 | 9.97 580 | 4 | 3 | | | |
| 58 | 9.51 191 | 37 | 9.53 615 | 41 | 0.46 385 | 9.97 576 | 4 | 2 | | | |
| 59 | 9.51 227 | 36 | 9.53 656 | 41 | 0.46 344 | 9.97 571 | 5 | 1 | | | |
| 60 | 9.51 264 | 37 | 9.53 697 | 41 | 0.46 303 | 9.97 567 | 4 | 0 | | | |
| | L Cos | <i>d</i> | L Ctn | <i>c d</i> | L Tan | L Sin | <i>d</i> | <i>l</i> | Prop. Pts. | | |

From the top:

For 18°+ or 198°+,
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108°+ or 288°+, read
co-function.

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read as printed; for
161°+ or 341°+, read
co-function.

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | d | | Prop. Pts. | | | |
|----|----------|----|----------|-----|----------|----------|---|----|------------|--|--|--|
| 0 | 9.51 264 | | 9.53 697 | | 0.46 303 | 9.97 567 | | 60 | | | | |
| 1 | 9.51 301 | 37 | 9.53 738 | 41 | 0.46 262 | 9.97 563 | 4 | 59 | | | | |
| 2 | 9.51 338 | 37 | 9.53 779 | 41 | 0.46 221 | 9.97 558 | 5 | 58 | | | | |
| 3 | 9.51 374 | 36 | 9.53 820 | 41 | 0.46 180 | 9.97 554 | 4 | 57 | | | | |
| 4 | 9.51 411 | 37 | 9.53 861 | 41 | 0.46 139 | 9.97 550 | 4 | 56 | | | | |
| 5 | 9.51 447 | 36 | 9.53 902 | 41 | 0.46 098 | 9.97 545 | 5 | 55 | | | | |
| 6 | 9.51 484 | 37 | 9.53 943 | 41 | 0.46 057 | 9.97 541 | 4 | 54 | | | | |
| 7 | 9.51 520 | 36 | 9.53 984 | 41 | 0.46 016 | 9.97 536 | 5 | 53 | | | | |
| 8 | 9.51 557 | 37 | 9.54 025 | 41 | 0.45 975 | 9.97 532 | 4 | 52 | | | | |
| 9 | 9.51 593 | 36 | 9.54 065 | 40 | 0.45 935 | 9.97 528 | 4 | 51 | | | | |
| 10 | 9.51 629 | 36 | 9.54 106 | 41 | 0.45 894 | 9.97 523 | 5 | 50 | | | | |
| 11 | 9.51 666 | 37 | 9.54 147 | 41 | 0.45 853 | 9.97 519 | 4 | 49 | | | | |
| 12 | 9.51 702 | 36 | 9.54 187 | 40 | 0.45 813 | 9.97 515 | 4 | 48 | | | | |
| 13 | 9.51 738 | 36 | 9.54 228 | 41 | 0.45 772 | 9.97 510 | 5 | 47 | | | | |
| 14 | 9.51 774 | 36 | 9.54 269 | 41 | 0.45 731 | 9.97 506 | 4 | 46 | | | | |
| 15 | 9.51 811 | 37 | 9.54 309 | 40 | 0.45 691 | 9.97 501 | 5 | 45 | | | | |
| 16 | 9.51 847 | 36 | 9.54 350 | 41 | 0.45 650 | 9.97 497 | 4 | 44 | | | | |
| 17 | 9.51 883 | 36 | 9.54 390 | 40 | 0.45 610 | 9.97 492 | 5 | 43 | | | | |
| 18 | 9.51 919 | 36 | 9.54 431 | 41 | 0.45 569 | 9.97 488 | 4 | 42 | | | | |
| 19 | 9.51 955 | 35 | 9.54 471 | 40 | 0.45 529 | 9.97 484 | 4 | 41 | | | | |
| 20 | 9.51 991 | 36 | 9.54 512 | 41 | 0.45 488 | 9.97 479 | 5 | 40 | | | | |
| 21 | 9.52 027 | 36 | 9.54 552 | 40 | 0.45 448 | 9.97 475 | 4 | 39 | | | | |
| 22 | 9.52 063 | 36 | 9.54 593 | 41 | 0.45 407 | 9.97 470 | 5 | 38 | | | | |
| 23 | 9.52 099 | 36 | 9.54 633 | 40 | 0.45 367 | 9.97 466 | 4 | 37 | | | | |
| 24 | 9.52 135 | 36 | 9.54 673 | 40 | 0.45 327 | 9.97 461 | 5 | 36 | | | | |
| 25 | 9.52 171 | 36 | 9.54 714 | 41 | 0.45 286 | 9.97 457 | 4 | 35 | | | | |
| 26 | 9.52 207 | 35 | 9.54 754 | 40 | 0.45 246 | 9.97 453 | 5 | 34 | | | | |
| 27 | 9.52 242 | 36 | 9.54 794 | 40 | 0.45 206 | 9.97 448 | 4 | 33 | | | | |
| 28 | 9.52 278 | 36 | 9.54 835 | 41 | 0.45 165 | 9.97 444 | 4 | 32 | | | | |
| 29 | 9.52 314 | 36 | 9.54 875 | 40 | 0.45 125 | 9.97 439 | 5 | 31 | | | | |
| 30 | 9.52 350 | 35 | 9.54 915 | 40 | 0.45 085 | 9.97 435 | 4 | 30 | | | | |
| 31 | 9.52 385 | 36 | 9.54 955 | 40 | 0.45 045 | 9.97 430 | 5 | 29 | | | | |
| 32 | 9.52 421 | 35 | 9.54 995 | 40 | 0.45 005 | 9.97 426 | 4 | 28 | | | | |
| 33 | 9.52 456 | 35 | 9.55 035 | 40 | 0.44 965 | 9.97 421 | 5 | 27 | | | | |
| 34 | 9.52 492 | 35 | 9.55 075 | 40 | 0.44 925 | 9.97 417 | 4 | 26 | | | | |
| 35 | 9.52 527 | 36 | 9.55 115 | 40 | 0.44 885 | 9.97 412 | 5 | 25 | | | | |
| 36 | 9.52 563 | 35 | 9.55 155 | 40 | 0.44 845 | 9.97 408 | 4 | 24 | | | | |
| 37 | 9.52 598 | 35 | 9.55 195 | 40 | 0.44 805 | 9.97 403 | 5 | 23 | | | | |
| 38 | 9.52 634 | 36 | 9.55 235 | 40 | 0.44 765 | 9.97 399 | 4 | 22 | | | | |
| 39 | 9.52 669 | 35 | 9.55 275 | 40 | 0.44 725 | 9.97 394 | 5 | 21 | | | | |
| 40 | 9.52 705 | 36 | 9.55 315 | 40 | 0.44 685 | 9.97 390 | 4 | 20 | | | | |
| 41 | 9.52 740 | 35 | 9.55 355 | 40 | 0.44 645 | 9.97 385 | 5 | 19 | | | | |
| 42 | 9.52 775 | 35 | 9.55 395 | 40 | 0.44 605 | 9.97 381 | 4 | 18 | | | | |
| 43 | 9.52 811 | 36 | 9.55 434 | 39 | 0.44 566 | 9.97 376 | 5 | 17 | | | | |
| 44 | 9.52 846 | 35 | 9.55 474 | 40 | 0.44 526 | 9.97 372 | 4 | 16 | | | | |
| 45 | 9.52 881 | 35 | 9.55 514 | 40 | 0.44 486 | 9.97 367 | 5 | 15 | | | | |
| 46 | 9.52 916 | 35 | 9.55 554 | 40 | 0.44 446 | 9.97 363 | 4 | 14 | | | | |
| 47 | 9.52 951 | 35 | 9.55 593 | 39 | 0.44 407 | 9.97 358 | 5 | 13 | | | | |
| 48 | 9.52 986 | 35 | 9.55 633 | 40 | 0.44 367 | 9.97 353 | 4 | 12 | | | | |
| 49 | 9.53 021 | 35 | 9.55 673 | 39 | 0.44 327 | 9.97 349 | 5 | 11 | | | | |
| 50 | 9.53 056 | 36 | 9.55 712 | 40 | 0.44 288 | 9.97 344 | 4 | 10 | | | | |
| 51 | 9.53 092 | 34 | 9.55 752 | 40 | 0.44 248 | 9.97 340 | 5 | 9 | | | | |
| 52 | 9.53 126 | 35 | 9.55 791 | 39 | 0.44 209 | 9.97 335 | 4 | 8 | | | | |
| 53 | 9.53 161 | 35 | 9.55 831 | 40 | 0.44 169 | 9.97 331 | 5 | 7 | | | | |
| 54 | 9.53 196 | 35 | 9.55 870 | 39 | 0.44 130 | 9.97 326 | 4 | 6 | | | | |
| 55 | 9.53 231 | 35 | 9.55 910 | 40 | 0.44 090 | 9.97 322 | 5 | 5 | | | | |
| 56 | 9.53 266 | 35 | 9.55 949 | 39 | 0.44 051 | 9.97 317 | 4 | 4 | | | | |
| 57 | 9.53 301 | 35 | 9.55 989 | 40 | 0.44 011 | 9.97 312 | 5 | 3 | | | | |
| 58 | 9.53 336 | 34 | 9.56 028 | 39 | 0.43 972 | 9.97 308 | 4 | 2 | | | | |
| 59 | 9.53 370 | 35 | 9.56 067 | 40 | 0.43 933 | 9.97 303 | 5 | 1 | | | | |
| 60 | 9.53 405 | | 9.56 107 | | 0.43 893 | 9.97 299 | | 0 | | | | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | d | | Prop. Pts. | | | |

From the top :

For 19°+ or 199°+,
read as printed ; for
109°+ or 289°+, read
co-function.

From the bottom :

For 70°+ or 250°+,
read as printed ; for
160°+ or 340°+, read
co-function.

| <i>i</i> | L Sin | <i>d</i> | L Tan | <i>c d</i> | L Ctn | L Cos | <i>d</i> | | Prop. Pts. |
|----------|----------|----------|----------|------------|----------|----------|----------|----------|------------------|
| 0 | 9.53 405 | 35 | 9.56 107 | 39 | 0.43 893 | 9.97 299 | 5 | 60 | |
| 1 | 9.53 440 | 35 | 9.56 146 | 39 | 0.43 854 | 9.97 294 | 5 | 59 | |
| 2 | 9.53 475 | 35 | 9.56 185 | 39 | 0.43 815 | 9.97 289 | 5 | 58 | |
| 3 | 9.53 509 | 34 | 9.56 224 | 39 | 0.43 776 | 9.97 285 | 4 | 57 | |
| 4 | 9.53 544 | 35 | 9.56 264 | 40 | 0.43 736 | 9.97 280 | 5 | 56 | |
| 5 | 9.53 578 | 34 | 9.56 303 | 39 | 0.43 697 | 9.97 276 | 4 | 55 | |
| 6 | 9.53 613 | 35 | 9.56 342 | 39 | 0.43 658 | 9.97 271 | 5 | 54 | 2 8.0 7.8 7.6 |
| 7 | 9.53 647 | 34 | 9.56 381 | 39 | 0.43 619 | 9.97 266 | 5 | 53 | 3 12.0 11.7 11.4 |
| 8 | 9.53 682 | 35 | 9.56 420 | 39 | 0.43 580 | 9.97 262 | 4 | 52 | 4 16.0 15.6 15.2 |
| 9 | 9.53 716 | 34 | 9.56 459 | 39 | 0.43 541 | 9.97 257 | 5 | 51 | 5 20.0 19.5 19.0 |
| 10 | 9.53 751 | 35 | 9.56 498 | 39 | 0.43 502 | 9.97 252 | 5 | 50 | 6 24.0 23.4 22.8 |
| 11 | 9.53 785 | 34 | 9.56 537 | 39 | 0.43 463 | 9.97 248 | 4 | 49 | 7 28.0 27.3 26.6 |
| 12 | 9.53 819 | 34 | 9.56 576 | 39 | 0.43 424 | 9.97 243 | 4 | 48 | 8 32.0 31.2 30.4 |
| 13 | 9.53 854 | 35 | 9.56 615 | 39 | 0.43 385 | 9.97 238 | 5 | 47 | 9 36.0 35.1 34.2 |
| 14 | 9.53 888 | 34 | 9.56 654 | 39 | 0.43 346 | 9.97 234 | 4 | 46 | |
| 15 | 9.53 922 | 35 | 9.56 693 | 39 | 0.43 307 | 9.97 229 | 5 | 45 | |
| 16 | 9.53 957 | 35 | 9.56 732 | 39 | 0.43 268 | 9.97 224 | 5 | 44 | |
| 17 | 9.53 991 | 34 | 9.56 771 | 39 | 0.43 229 | 9.97 220 | 4 | 43 | |
| 18 | 9.54 025 | 34 | 9.56 810 | 39 | 0.43 190 | 9.97 215 | 5 | 42 | 2 7.4 7.0 6.8 |
| 19 | 9.54 059 | 34 | 9.56 849 | 39 | 0.43 151 | 9.97 210 | 5 | 41 | 3 11.1 10.5 10.2 |
| 20 | 9.54 093 | 34 | 9.56 887 | 39 | 0.43 113 | 9.97 206 | 5 | 40 | 4 14.8 14.0 13.6 |
| 21 | 9.54 127 | 34 | 9.56 926 | 39 | 0.43 074 | 9.97 201 | 5 | 39 | 5 18.5 17.5 17.0 |
| 22 | 9.54 161 | 34 | 9.56 965 | 39 | 0.43 035 | 9.97 196 | 5 | 38 | 6 22.2 21.0 20.4 |
| 23 | 9.54 195 | 34 | 9.57 004 | 38 | 0.42 996 | 9.97 192 | 4 | 37 | 7 25.9 24.5 23.8 |
| 24 | 9.54 229 | 34 | 9.57 042 | 39 | 0.42 958 | 9.97 187 | 5 | 36 | 8 29.6 28.0 27.2 |
| 25 | 9.54 263 | 34 | 9.57 081 | 39 | 0.42 919 | 9.97 182 | 5 | 35 | 9 33.3 31.5 30.6 |
| 26 | 9.54 297 | 34 | 9.57 120 | 39 | 0.42 880 | 9.97 178 | 4 | 34 | |
| 27 | 9.54 331 | 34 | 9.57 158 | 38 | 0.42 842 | 9.97 173 | 5 | 33 | |
| 28 | 9.54 365 | 34 | 9.57 197 | 39 | 0.42 803 | 9.97 168 | 5 | 32 | |
| 29 | 9.54 399 | 34 | 9.57 235 | 39 | 0.42 765 | 9.97 163 | 5 | 31 | |
| 30 | 9.54 433 | 33 | 9.57 274 | 38 | 0.42 726 | 9.97 159 | 4 | 30 | |
| 31 | 9.54 466 | 34 | 9.57 312 | 39 | 0.42 688 | 9.97 154 | 5 | 29 | 2 6.6 1.0 0.8 |
| 32 | 9.54 500 | 34 | 9.57 351 | 39 | 0.42 649 | 9.97 149 | 5 | 28 | 3 9.9 1.5 1.2 |
| 33 | 9.54 534 | 33 | 9.57 389 | 38 | 0.42 611 | 9.97 145 | 4 | 27 | 4 13.2 2.0 1.6 |
| 34 | 9.54 567 | 34 | 9.57 428 | 39 | 0.42 572 | 9.97 140 | 5 | 26 | 5 16.5 2.5 2.0 |
| 35 | 9.54 601 | 34 | 9.57 466 | 38 | 0.42 534 | 9.97 135 | 5 | 25 | 6 19.8 3.0 2.4 |
| 36 | 9.54 635 | 33 | 9.57 504 | 39 | 0.42 496 | 9.97 130 | 5 | 24 | 7 23.1 3.5 2.8 |
| 37 | 9.54 668 | 34 | 9.57 543 | 38 | 0.42 457 | 9.97 126 | 4 | 23 | 8 26.4 4.0 3.2 |
| 38 | 9.54 702 | 33 | 9.57 581 | 38 | 0.42 419 | 9.97 121 | 5 | 22 | 9 29.7 4.5 3.6 |
| 39 | 9.54 735 | 34 | 9.57 619 | 39 | 0.42 381 | 9.97 116 | 5 | 21 | |
| 40 | 9.54 769 | 33 | 9.57 658 | 38 | 0.42 342 | 9.97 111 | 5 | 20 | |
| 41 | 9.54 802 | 34 | 9.57 696 | 38 | 0.42 304 | 9.97 107 | 4 | 19 | |
| 42 | 9.54 836 | 33 | 9.57 734 | 38 | 0.42 266 | 9.97 102 | 5 | 18 | |
| 43 | 9.54 869 | 34 | 9.57 772 | 38 | 0.42 228 | 9.97 097 | 5 | 17 | |
| 44 | 9.54 903 | 33 | 9.57 810 | 39 | 0.42 190 | 9.97 092 | 5 | 16 | |
| 45 | 9.54 936 | 33 | 9.57 849 | 38 | 0.42 151 | 9.97 087 | 4 | 15 | |
| 46 | 9.54 969 | 34 | 9.57 887 | 38 | 0.42 113 | 9.97 083 | 5 | 14 | |
| 47 | 9.55 003 | 33 | 9.57 925 | 38 | 0.42 075 | 9.97 078 | 5 | 13 | |
| 48 | 9.55 036 | 33 | 9.57 963 | 38 | 0.42 037 | 9.97 073 | 5 | 12 | |
| 49 | 9.55 069 | 33 | 9.58 001 | 38 | 0.41 999 | 9.97 068 | 5 | 11 | |
| 50 | 9.55 102 | 34 | 9.58 039 | 38 | 0.41 961 | 9.97 063 | 5 | 10 | |
| 51 | 9.55 136 | 33 | 9.58 077 | 38 | 0.41 923 | 9.97 059 | 4 | 9 | |
| 52 | 9.55 169 | 33 | 9.58 115 | 38 | 0.41 885 | 9.97 054 | 5 | 8 | |
| 53 | 9.55 202 | 33 | 9.58 153 | 38 | 0.41 847 | 9.97 049 | 5 | 7 | |
| 54 | 9.55 235 | 33 | 9.58 191 | 38 | 0.41 809 | 9.97 044 | 5 | 6 | |
| 55 | 9.55 268 | 33 | 9.58 229 | 38 | 0.41 771 | 9.97 039 | 5 | 5 | |
| 56 | 9.55 301 | 33 | 9.58 267 | 37 | 0.41 733 | 9.97 035 | 4 | 4 | |
| 57 | 9.55 334 | 33 | 9.58 304 | 38 | 0.41 696 | 9.97 030 | 5 | 3 | |
| 58 | 9.55 367 | 33 | 9.58 342 | 38 | 0.41 658 | 9.97 025 | 5 | 2 | |
| 59 | 9.55 400 | 33 | 9.58 380 | 38 | 0.41 620 | 9.97 020 | 5 | 1 | |
| 60 | 9.55 433 | | 9.58 418 | | 0.41 582 | 9.97 015 | | 0 | |
| | L Cos | <i>d</i> | L Ctn | <i>c d</i> | L Tan | L Sin | <i>d</i> | <i>i</i> | Prop. Pts. |

From the top :

For 20°+ or 200°+,
read as printed; for
110°+ or 290°+, read
co-function.

From the bottom :

For 69°+ or 249°+,
read as printed; for
159°+ or 339°+, read
co-function.

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | d | | Prop. Pts. | | | |
|----|----------|----|----------|-----|----------|----------|---|----|------------|------|------|------|
| 0 | 9.55 433 | 33 | 9.58 418 | 37 | 0.41 582 | 9.97 015 | 5 | 60 | | | | |
| 1 | 9.55 466 | 33 | 9.58 455 | 38 | 0.41 545 | 9.97 010 | 5 | 59 | | | | |
| 2 | 9.55 499 | 33 | 9.58 493 | 38 | 0.41 507 | 9.97 005 | 5 | 58 | | | | |
| 3 | 9.55 532 | 33 | 9.58 531 | 38 | 0.41 469 | 9.97 001 | 4 | 57 | | | | |
| 4 | 9.55 564 | 33 | 9.58 569 | 38 | 0.41 431 | 9.96 996 | 5 | 56 | | | | |
| 5 | 9.55 597 | 33 | 9.58 606 | 37 | 0.41 394 | 9.96 991 | 5 | 55 | 38 | 37 | 36 | |
| 6 | 9.55 630 | 33 | 9.58 644 | 38 | 0.41 356 | 9.96 986 | 5 | 54 | 2 | 7.6 | 7.4 | 7.2 |
| 7 | 9.55 663 | 33 | 9.58 681 | 37 | 0.41 319 | 9.96 981 | 5 | 53 | 3 | 11.4 | 11.1 | 10.8 |
| 8 | 9.55 695 | 32 | 9.58 719 | 38 | 0.41 281 | 9.96 976 | 5 | 52 | 4 | 15.2 | 14.8 | 14.4 |
| 9 | 9.55 728 | 33 | 9.58 757 | 38 | 0.41 243 | 9.96 971 | 5 | 51 | 5 | 19.0 | 18.5 | 18.0 |
| 10 | 9.55 761 | 32 | 9.58 794 | 37 | 0.41 206 | 9.96 966 | 5 | 50 | 6 | 22.8 | 22.2 | 21.6 |
| 11 | 9.55 793 | 33 | 9.58 832 | 38 | 0.41 168 | 9.96 962 | 4 | 49 | 7 | 26.6 | 25.9 | 25.2 |
| 12 | 9.55 826 | 33 | 9.58 869 | 37 | 0.41 131 | 9.96 957 | 5 | 48 | 8 | 30.4 | 29.6 | 28.8 |
| 13 | 9.55 858 | 32 | 9.58 907 | 38 | 0.41 093 | 9.96 952 | 5 | 47 | 9 | 34.2 | 33.3 | 32.4 |
| 14 | 9.55 891 | 33 | 9.58 944 | 37 | 0.41 056 | 9.96 947 | 5 | 46 | | | | |
| 15 | 9.55 923 | 32 | 9.58 981 | 37 | 0.41 019 | 9.96 942 | 5 | 45 | | | | |
| 16 | 9.55 956 | 33 | 9.59 019 | 38 | 0.40 981 | 9.96 937 | 5 | 44 | 33 | 32 | 31 | |
| 17 | 9.55 988 | 32 | 9.59 056 | 37 | 0.40 944 | 9.96 932 | 5 | 43 | 2 | 6.6 | 6.4 | 6.2 |
| 18 | 9.56 021 | 33 | 9.59 094 | 38 | 0.40 906 | 9.96 927 | 5 | 42 | 3 | 9.9 | 9.6 | 9.3 |
| 19 | 9.56 053 | 32 | 9.59 131 | 37 | 0.40 869 | 9.96 922 | 5 | 41 | 4 | 13.2 | 12.8 | 12.4 |
| 20 | 9.56 085 | 33 | 9.59 168 | 37 | 0.40 832 | 9.96 917 | 5 | 40 | 5 | 16.5 | 16.0 | 15.5 |
| 21 | 9.56 118 | 32 | 9.59 205 | 38 | 0.40 795 | 9.96 912 | 5 | 39 | 6 | 19.8 | 19.2 | 18.6 |
| 22 | 9.56 150 | 33 | 9.59 243 | 37 | 0.40 757 | 9.96 907 | 5 | 38 | 7 | 23.1 | 22.4 | 21.7 |
| 23 | 9.56 182 | 32 | 9.59 280 | 37 | 0.40 720 | 9.96 903 | 4 | 37 | 8 | 26.4 | 25.6 | 24.8 |
| 24 | 9.56 215 | 33 | 9.59 317 | 37 | 0.40 683 | 9.96 898 | 5 | 36 | 9 | 29.7 | 28.8 | 27.9 |
| 25 | 9.56 247 | 32 | 9.59 354 | 37 | 0.40 646 | 9.96 893 | 5 | 35 | | | | |
| 26 | 9.56 279 | 33 | 9.59 391 | 38 | 0.40 609 | 9.96 888 | 5 | 34 | 6 | 5 | 4 | |
| 27 | 9.56 311 | 32 | 9.59 429 | 37 | 0.40 571 | 9.96 883 | 5 | 33 | 2 | 1.2 | 1.0 | 0.8 |
| 28 | 9.56 343 | 33 | 9.59 466 | 37 | 0.40 534 | 9.96 878 | 5 | 32 | 3 | 1.8 | 1.5 | 1.2 |
| 29 | 9.56 375 | 32 | 9.59 503 | 37 | 0.40 497 | 9.96 873 | 5 | 31 | 4 | 2.4 | 2.0 | 1.6 |
| 30 | 9.56 408 | 33 | 9.59 540 | 37 | 0.40 460 | 9.96 868 | 5 | 30 | 5 | 3.0 | 2.5 | 2.0 |
| 31 | 9.56 440 | 32 | 9.59 577 | 37 | 0.40 423 | 9.96 863 | 5 | 29 | 6 | 3.6 | 3.0 | 2.4 |
| 32 | 9.56 472 | 33 | 9.59 614 | 37 | 0.40 386 | 9.96 858 | 5 | 28 | 7 | 4.2 | 3.5 | 2.8 |
| 33 | 9.56 504 | 32 | 9.59 651 | 37 | 0.40 349 | 9.96 853 | 5 | 27 | 8 | 4.8 | 4.0 | 3.2 |
| 34 | 9.56 536 | 33 | 9.59 688 | 37 | 0.40 312 | 9.96 848 | 5 | 26 | 9 | 5.4 | 4.5 | 3.6 |
| 35 | 9.56 568 | 31 | 9.59 725 | 37 | 0.40 275 | 9.96 843 | 5 | 25 | | | | |
| 36 | 9.56 599 | 32 | 9.59 762 | 37 | 0.40 238 | 9.96 838 | 5 | 24 | | | | |
| 37 | 9.56 631 | 33 | 9.59 799 | 37 | 0.40 201 | 9.96 833 | 5 | 23 | | | | |
| 38 | 9.56 663 | 32 | 9.59 835 | 36 | 0.40 165 | 9.96 828 | 5 | 22 | | | | |
| 39 | 9.56 695 | 33 | 9.59 872 | 37 | 0.40 128 | 9.96 823 | 5 | 21 | | | | |
| 40 | 9.56 727 | 32 | 9.59 909 | 37 | 0.40 091 | 9.96 818 | 5 | 20 | | | | |
| 41 | 9.56 759 | 31 | 9.59 946 | 37 | 0.40 054 | 9.96 813 | 5 | 19 | | | | |
| 42 | 9.56 790 | 32 | 9.59 983 | 36 | 0.40 017 | 9.96 808 | 5 | 18 | | | | |
| 43 | 9.56 822 | 33 | 9.60 019 | 36 | 0.39 981 | 9.96 803 | 5 | 17 | | | | |
| 44 | 9.56 854 | 32 | 9.60 056 | 37 | 0.39 944 | 9.96 798 | 5 | 16 | | | | |
| 45 | 9.56 886 | 31 | 9.60 093 | 37 | 0.39 907 | 9.96 793 | 5 | 15 | | | | |
| 46 | 9.56 917 | 32 | 9.60 130 | 36 | 0.39 870 | 9.96 788 | 5 | 14 | | | | |
| 47 | 9.56 949 | 33 | 9.60 166 | 36 | 0.39 834 | 9.96 783 | 5 | 13 | | | | |
| 48 | 9.56 980 | 31 | 9.60 203 | 37 | 0.39 797 | 9.96 778 | 5 | 12 | | | | |
| 49 | 9.57 012 | 32 | 9.60 240 | 37 | 0.39 760 | 9.96 772 | 6 | 11 | | | | |
| 50 | 9.57 044 | 31 | 9.60 276 | 36 | 0.39 724 | 9.96 767 | 5 | 10 | | | | |
| 51 | 9.57 075 | 32 | 9.60 313 | 37 | 0.39 687 | 9.96 762 | 5 | 9 | | | | |
| 52 | 9.57 107 | 33 | 9.60 349 | 36 | 0.39 651 | 9.96 757 | 5 | 8 | | | | |
| 53 | 9.57 138 | 31 | 9.60 386 | 37 | 0.39 614 | 9.96 752 | 5 | 7 | | | | |
| 54 | 9.57 169 | 32 | 9.60 422 | 36 | 0.39 578 | 9.96 747 | 5 | 6 | | | | |
| 55 | 9.57 201 | 31 | 9.60 459 | 36 | 0.39 541 | 9.96 742 | 5 | 5 | | | | |
| 56 | 9.57 232 | 32 | 9.60 495 | 37 | 0.39 505 | 9.96 737 | 5 | 4 | | | | |
| 57 | 9.57 264 | 33 | 9.60 532 | 37 | 0.39 468 | 9.96 732 | 5 | 3 | | | | |
| 58 | 9.57 295 | 31 | 9.60 568 | 36 | 0.39 432 | 9.96 727 | 5 | 2 | | | | |
| 59 | 9.57 326 | 32 | 9.60 605 | 37 | 0.39 395 | 9.96 722 | 5 | 1 | | | | |
| 60 | 9.57 358 | 33 | 9.60 641 | 36 | 0.39 359 | 9.96 717 | 5 | 0 | | | | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | d | ' | Prop. Pts. | | | |

From the top:

For 21°+ or 201°+,
read as printed; for
111°+ or 291°+, read
co-function.

From the bottom:

For 68°+ or 248°+,
read as printed; for
158°+ or 338°+, read
co-function.

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | d | | Prop. Pts. | | | |
|----|----------|----|----------|-----|----------|----------|---|----|------------|------|------|------|
| 0 | 9.57 358 | | 9.60 641 | | 0.39 359 | 9.96 717 | | 60 | | | | |
| 1 | 9.57 389 | 31 | 9.60 677 | 36 | 0.39 323 | 9.96 711 | 6 | 59 | | | | |
| 2 | 9.57 420 | 31 | 9.60 714 | 37 | 0.39 286 | 9.96 706 | 5 | 58 | | | | |
| 3 | 9.57 451 | 31 | 9.60 750 | 36 | 0.39 250 | 9.96 701 | 5 | 57 | | | | |
| 4 | 9.57 482 | 31 | 9.60 786 | 36 | 0.39 214 | 9.96 696 | 5 | 56 | | | | |
| 5 | 9.57 514 | 32 | 9.60 823 | 37 | 0.39 177 | 9.96 691 | 5 | 55 | | 37 | 36 | 35 |
| 6 | 9.57 545 | 31 | 9.60 859 | 36 | 0.39 141 | 9.96 686 | 5 | 54 | 2 | 7.4 | 7.2 | 7.0 |
| 7 | 9.57 576 | 31 | 9.60 895 | 36 | 0.39 105 | 9.96 681 | 5 | 53 | 3 | 11.1 | 10.8 | 10.5 |
| 8 | 9.57 607 | 31 | 9.60 931 | 36 | 0.39 069 | 9.96 676 | 5 | 52 | 4 | 14.8 | 14.4 | 14.0 |
| 9 | 9.57 638 | 31 | 9.60 967 | 36 | 0.39 033 | 9.96 670 | 6 | 51 | 5 | 18.5 | 18.0 | 17.5 |
| 10 | 9.57 669 | 31 | 9.61 004 | 37 | 0.38 996 | 9.96 665 | 5 | 50 | 6 | 22.2 | 21.6 | 21.0 |
| 11 | 9.57 700 | 31 | 9.61 040 | 36 | 0.38 960 | 9.96 660 | 5 | 49 | 7 | 25.9 | 25.2 | 24.5 |
| 12 | 9.57 731 | 31 | 9.61 076 | 36 | 0.38 924 | 9.96 655 | 5 | 48 | 8 | 29.6 | 28.8 | 28.0 |
| 13 | 9.57 762 | 31 | 9.61 112 | 36 | 0.38 888 | 9.96 650 | 5 | 47 | 9 | 33.3 | 32.4 | 31.5 |
| 14 | 9.57 793 | 31 | 9.61 148 | 36 | 0.38 852 | 9.96 645 | 5 | 46 | | | | |
| 15 | 9.57 824 | 31 | 9.61 184 | 36 | 0.38 816 | 9.96 640 | 5 | 45 | | | | |
| 16 | 9.57 855 | 31 | 9.61 220 | 36 | 0.38 780 | 9.96 634 | 6 | 44 | | | | |
| 17 | 9.57 885 | 30 | 9.61 256 | 36 | 0.38 744 | 9.96 629 | 5 | 43 | | | | |
| 18 | 9.57 916 | 31 | 9.61 292 | 36 | 0.38 708 | 9.96 624 | 5 | 42 | 2 | 6.4 | 6.2 | 6.0 |
| 19 | 9.57 947 | 31 | 9.61 328 | 36 | 0.38 672 | 9.96 619 | 5 | 41 | 3 | 9.6 | 9.3 | 9.0 |
| 20 | 9.57 978 | 30 | 9.61 364 | 36 | 0.38 636 | 9.96 614 | 5 | 40 | 4 | 12.8 | 12.4 | 12.0 |
| 21 | 9.58 008 | 30 | 9.61 400 | 36 | 0.38 600 | 9.96 608 | 6 | 39 | 5 | 16.0 | 15.5 | 15.0 |
| 22 | 9.58 039 | 31 | 9.61 436 | 36 | 0.38 564 | 9.96 603 | 5 | 38 | 6 | 19.2 | 18.6 | 18.0 |
| 23 | 9.58 070 | 31 | 9.61 472 | 36 | 0.38 528 | 9.96 598 | 5 | 37 | 7 | 22.4 | 21.7 | 21.0 |
| 24 | 9.58 101 | 30 | 9.61 508 | 36 | 0.38 492 | 9.96 593 | 5 | 36 | 8 | 25.6 | 24.8 | 24.0 |
| 25 | 9.58 131 | 31 | 9.61 544 | 35 | 0.38 456 | 9.96 588 | 5 | 35 | 9 | 28.8 | 27.9 | 27.0 |
| 26 | 9.58 162 | 31 | 9.61 579 | 35 | 0.38 421 | 9.96 582 | 6 | 34 | | | | |
| 27 | 9.58 192 | 30 | 9.61 615 | 36 | 0.38 385 | 9.96 577 | 5 | 33 | | | | |
| 28 | 9.58 223 | 31 | 9.61 651 | 36 | 0.38 349 | 9.96 572 | 5 | 32 | | | | |
| 29 | 9.58 253 | 30 | 9.61 687 | 36 | 0.38 313 | 9.96 567 | 5 | 31 | | | | |
| 30 | 9.58 284 | 30 | 9.61 722 | 35 | 0.38 278 | 9.96 562 | 5 | 30 | 2 | 5.8 | 1.2 | 1.0 |
| 31 | 9.58 314 | 31 | 9.61 758 | 36 | 0.38 242 | 9.96 556 | 6 | 29 | 3 | 8.7 | 1.8 | 1.5 |
| 32 | 9.58 345 | 31 | 9.61 794 | 36 | 0.38 206 | 9.96 551 | 5 | 28 | 4 | 11.6 | 2.4 | 2.0 |
| 33 | 9.58 375 | 30 | 9.61 830 | 36 | 0.38 170 | 9.96 546 | 5 | 27 | 5 | 14.5 | 3.0 | 2.5 |
| 34 | 9.58 406 | 31 | 9.61 865 | 36 | 0.38 135 | 9.96 541 | 5 | 26 | 6 | 17.4 | 3.6 | 3.0 |
| 35 | 9.58 436 | 30 | 9.61 901 | 35 | 0.38 099 | 9.96 535 | 5 | 25 | 7 | 20.3 | 4.2 | 3.5 |
| 36 | 9.58 467 | 31 | 9.61 936 | 36 | 0.38 064 | 9.96 530 | 6 | 24 | 8 | 23.2 | 4.8 | 4.0 |
| 37 | 9.58 497 | 30 | 9.61 972 | 36 | 0.38 028 | 9.96 525 | 5 | 23 | 9 | 26.1 | 5.4 | 4.5 |
| 38 | 9.58 527 | 30 | 9.62 008 | 35 | 0.37 992 | 9.96 520 | 5 | 22 | | | | |
| 39 | 9.58 557 | 31 | 9.62 043 | 36 | 0.37 957 | 9.96 514 | 6 | 21 | | | | |
| 40 | 9.58 588 | 30 | 9.62 079 | 36 | 0.37 921 | 9.96 509 | 5 | 20 | | | | |
| 41 | 9.58 618 | 30 | 9.62 114 | 35 | 0.37 886 | 9.96 504 | 5 | 19 | | | | |
| 42 | 9.58 648 | 30 | 9.62 150 | 36 | 0.37 850 | 9.96 498 | 6 | 18 | | | | |
| 43 | 9.58 678 | 31 | 9.62 185 | 35 | 0.37 815 | 9.96 493 | 5 | 17 | | | | |
| 44 | 9.58 709 | 30 | 9.62 221 | 36 | 0.37 779 | 9.96 488 | 5 | 16 | | | | |
| 45 | 9.58 739 | 30 | 9.62 256 | 35 | 0.37 744 | 9.96 483 | 5 | 15 | | | | |
| 46 | 9.58 769 | 30 | 9.62 292 | 36 | 0.37 708 | 9.96 477 | 6 | 14 | | | | |
| 47 | 9.58 799 | 30 | 9.62 327 | 35 | 0.37 673 | 9.96 472 | 5 | 13 | | | | |
| 48 | 9.58 829 | 30 | 9.62 362 | 36 | 0.37 638 | 9.96 467 | 5 | 12 | | | | |
| 49 | 9.58 859 | 30 | 9.62 398 | 35 | 0.37 602 | 9.96 461 | 6 | 11 | | | | |
| 50 | 9.58 889 | 30 | 9.62 433 | 36 | 0.37 567 | 9.96 456 | 5 | 10 | | | | |
| 51 | 9.58 919 | 30 | 9.62 468 | 35 | 0.37 532 | 9.96 451 | 5 | 9 | | | | |
| 52 | 9.58 949 | 30 | 9.62 504 | 36 | 0.37 496 | 9.96 445 | 6 | 8 | | | | |
| 53 | 9.58 979 | 30 | 9.62 539 | 35 | 0.37 461 | 9.96 440 | 5 | 7 | | | | |
| 54 | 9.59 009 | 30 | 9.62 574 | 35 | 0.37 426 | 9.96 435 | 6 | 6 | | | | |
| 55 | 9.59 039 | 30 | 9.62 609 | 36 | 0.37 391 | 9.96 429 | 5 | 5 | | | | |
| 56 | 9.59 069 | 29 | 9.62 645 | 35 | 0.37 355 | 9.96 424 | 5 | 4 | | | | |
| 57 | 9.59 098 | 30 | 9.62 680 | 35 | 0.37 320 | 9.96 419 | 6 | 3 | | | | |
| 58 | 9.59 128 | 30 | 9.62 715 | 35 | 0.37 285 | 9.96 413 | 5 | 2 | | | | |
| 59 | 9.59 158 | 30 | 9.62 750 | 35 | 0.37 250 | 9.96 408 | 5 | 1 | | | | |
| 60 | 9.59 188 | 30 | 9.62 785 | 35 | 0.37 215 | 9.96 403 | 5 | 0 | | | | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | d | ' | Prop. Pts. | | | |

From the top:

For $22^{\circ+}$ or $202^{\circ+}$,
read as printed; for
 $112^{\circ+}$ or $292^{\circ+}$, read
co-function.

From the bottom:

For $67^{\circ+}$ or $247^{\circ+}$,
read as printed; for
 $157^{\circ+}$ or $337^{\circ+}$, read
co-function.

| / | L Sin | d | L Tan | c d | L Ctn | L Cos | d | Prop. Pts. | | | |
|----|----------|----|----------|-----|----------|----------|---|------------|------------|--|--|
| 0 | 9.59 188 | | 9.62 785 | | 0.37 215 | 9.96 403 | | 60 | | | |
| 1 | 9.59 218 | 30 | 9.62 820 | 35 | 0.37 180 | 9.96 397 | 6 | 59 | | | |
| 2 | 9.59 247 | 29 | 9.62 855 | 35 | 0.37 145 | 9.96 392 | 5 | 58 | | | |
| 3 | 9.59 277 | 30 | 9.62 890 | 35 | 0.37 110 | 9.96 387 | 5 | 57 | | | |
| 4 | 9.59 307 | 30 | 9.62 926 | 36 | 0.37 074 | 9.96 381 | 6 | 56 | | | |
| | | 29 | | 35 | | | 5 | | | | |
| 5 | 9.59 336 | | 9.62 961 | | 0.37 039 | 9.96 376 | | 55 | | | |
| 6 | 9.59 366 | 30 | 9.62 996 | 35 | 0.37 004 | 9.96 370 | 6 | 54 | | | |
| 7 | 9.59 396 | 30 | 9.63 031 | 35 | 0.36 969 | 9.96 365 | 5 | 53 | | | |
| 8 | 9.59 425 | 29 | 9.63 066 | 35 | 0.36 934 | 9.96 360 | 5 | 52 | | | |
| 9 | 9.59 455 | 30 | 9.63 101 | 35 | 0.36 899 | 9.96 354 | 6 | 51 | | | |
| | | 29 | | 34 | | | 5 | | | | |
| 10 | 9.59 484 | | 9.63 135 | | 0.36 865 | 9.96 349 | | 50 | | | |
| 11 | 9.59 514 | 30 | 9.63 170 | 35 | 0.36 830 | 9.96 343 | 6 | 49 | | | |
| 12 | 9.59 543 | 29 | 9.63 205 | 35 | 0.36 795 | 9.96 338 | 5 | 48 | | | |
| 13 | 9.59 573 | 30 | 9.63 240 | 35 | 0.36 760 | 9.96 333 | 5 | 47 | | | |
| 14 | 9.59 602 | 29 | 9.63 275 | 35 | 0.36 725 | 9.96 327 | 6 | 46 | | | |
| | | 30 | | 35 | | | 5 | | | | |
| 15 | 9.59 632 | | 9.63 310 | | 0.36 690 | 9.96 322 | | 45 | | | |
| 16 | 9.59 661 | 29 | 9.63 345 | 35 | 0.36 655 | 9.96 316 | 6 | 44 | | | |
| 17 | 9.59 690 | 30 | 9.63 379 | 34 | 0.36 621 | 9.96 311 | 5 | 43 | | | |
| 18 | 9.59 720 | 29 | 9.63 414 | 35 | 0.36 586 | 9.96 305 | 6 | 42 | | | |
| 19 | 9.59 749 | 29 | 9.63 449 | 35 | 0.36 551 | 9.96 300 | 5 | 41 | | | |
| | | 29 | | 35 | | | 6 | | | | |
| 20 | 9.59 778 | | 9.63 484 | | 0.36 516 | 9.96 294 | | 40 | | | |
| 21 | 9.59 808 | 30 | 9.63 519 | 35 | 0.36 481 | 9.96 289 | 5 | 39 | | | |
| 22 | 9.59 837 | 29 | 9.63 553 | 34 | 0.36 447 | 9.96 284 | 5 | 38 | | | |
| 23 | 9.59 866 | 29 | 9.63 588 | 35 | 0.36 412 | 9.96 278 | 6 | 37 | | | |
| 24 | 9.59 895 | 29 | 9.63 623 | 35 | 0.36 377 | 9.96 273 | 5 | 36 | | | |
| | | 29 | | 34 | | | 6 | | | | |
| 25 | 9.59 924 | | 9.63 657 | | 0.36 343 | 9.96 267 | | 35 | | | |
| 26 | 9.59 954 | 30 | 9.63 692 | 35 | 0.36 308 | 9.96 262 | 5 | 34 | | | |
| 27 | 9.59 983 | 29 | 9.63 726 | 34 | 0.36 274 | 9.96 256 | 6 | 33 | | | |
| 28 | 9.60 012 | 29 | 9.63 761 | 35 | 0.36 239 | 9.96 251 | 5 | 32 | | | |
| 29 | 9.60 041 | 29 | 9.63 796 | 35 | 0.36 204 | 9.96 245 | 6 | 31 | | | |
| | | 29 | | 34 | | | 5 | | | | |
| 30 | 9.60 070 | | 9.63 830 | | 0.36 170 | 9.96 240 | | 30 | | | |
| 31 | 9.60 099 | 29 | 9.63 865 | 35 | 0.36 135 | 9.96 234 | 6 | 29 | | | |
| 32 | 9.60 128 | 29 | 9.63 899 | 34 | 0.36 101 | 9.96 229 | 5 | 28 | | | |
| 33 | 9.60 157 | 29 | 9.63 934 | 35 | 0.36 066 | 9.96 223 | 6 | 27 | | | |
| 34 | 9.60 186 | 29 | 9.63 968 | 34 | 0.36 032 | 9.96 218 | 5 | 26 | | | |
| | | 29 | | 35 | | | 6 | | | | |
| 35 | 9.60 215 | | 9.64 003 | | 0.35 997 | 9.96 212 | | 25 | | | |
| 36 | 9.60 244 | 29 | 9.64 037 | 34 | 0.35 963 | 9.96 207 | 5 | 24 | | | |
| 37 | 9.60 273 | 29 | 9.64 072 | 35 | 0.35 928 | 9.96 201 | 6 | 23 | | | |
| 38 | 9.60 302 | 29 | 9.64 106 | 34 | 0.35 894 | 9.96 196 | 5 | 22 | | | |
| 39 | 9.60 331 | 29 | 9.64 140 | 34 | 0.35 860 | 9.96 190 | 6 | 21 | | | |
| | | 28 | | 35 | | | 5 | | | | |
| 40 | 9.60 359 | | 9.64 175 | | 0.35 825 | 9.96 185 | | 20 | | | |
| 41 | 9.60 388 | 29 | 9.64 209 | 34 | 0.35 791 | 9.96 179 | 6 | 19 | | | |
| 42 | 9.60 417 | 29 | 9.64 243 | 34 | 0.35 757 | 9.96 174 | 5 | 18 | | | |
| 43 | 9.60 446 | 29 | 9.64 278 | 35 | 0.35 722 | 9.96 168 | 6 | 17 | | | |
| 44 | 9.60 474 | 28 | 9.64 312 | 34 | 0.35 688 | 9.96 162 | 6 | 16 | | | |
| | | 29 | | 34 | | | 5 | | | | |
| 45 | 9.60 503 | | 9.64 346 | | 0.35 654 | 9.96 157 | | 15 | | | |
| 46 | 9.60 532 | 29 | 9.64 381 | 35 | 0.35 619 | 9.96 151 | 6 | 14 | | | |
| 47 | 9.60 561 | 29 | 9.64 415 | 34 | 0.35 585 | 9.96 146 | 5 | 13 | | | |
| 48 | 9.60 589 | 28 | 9.64 449 | 34 | 0.35 551 | 9.96 140 | 6 | 12 | | | |
| 49 | 9.60 618 | 28 | 9.64 483 | 34 | 0.35 517 | 9.96 135 | 5 | 11 | | | |
| | | 28 | | 34 | | | 6 | | | | |
| 50 | 9.60 646 | | 9.64 517 | | 0.35 483 | 9.96 129 | | 10 | | | |
| 51 | 9.60 675 | 29 | 9.64 552 | 35 | 0.35 448 | 9.96 123 | 6 | 9 | | | |
| 52 | 9.60 704 | 28 | 9.64 586 | 34 | 0.35 414 | 9.96 118 | 5 | 8 | | | |
| 53 | 9.60 732 | 29 | 9.64 620 | 34 | 0.35 380 | 9.96 112 | 6 | 7 | | | |
| 54 | 9.60 761 | 29 | 9.64 654 | 34 | 0.35 346 | 9.96 107 | 5 | 6 | | | |
| | | 28 | | 34 | | | 6 | | | | |
| 55 | 9.60 789 | | 9.64 688 | | 0.35 312 | 9.96 101 | | 5 | | | |
| 56 | 9.60 818 | 29 | 9.64 722 | 34 | 0.35 278 | 9.96 095 | 6 | 4 | | | |
| 57 | 9.60 846 | 28 | 9.64 756 | 34 | 0.35 244 | 9.96 090 | 5 | 3 | | | |
| 58 | 9.60 875 | 29 | 9.64 790 | 34 | 0.35 210 | 9.96 084 | 6 | 2 | | | |
| 59 | 9.60 903 | 28 | 9.64 824 | 34 | 0.35 176 | 9.96 079 | 5 | 1 | | | |
| | | 28 | | 34 | | | 6 | | | | |
| 60 | 9.60 931 | | 9.64 858 | | 0.35 142 | 9.96 073 | | 0 | | | |
| | | d | | c d | | | d | | | | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | d | / | Prop. Pts. | | |

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From the top :

For 23°+ or 203°+, read as printed; for 113°+ or 293°+, read co-function.

From the bottom :

For 66°+ or 246°+, read as printed; for 156°+ or 336°+, read co-function.

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | d | | Prop. Pts. |
|----|----------|----|----------|-----|----------|----------|---|----|------------|
| 0 | 9.60 931 | 29 | 9.64 858 | 34 | 0.35 142 | 9.96 073 | 6 | 60 | |
| 1 | 9.60 960 | 28 | 9.64 892 | 34 | 0.35 108 | 9.96 067 | 5 | 59 | |
| 2 | 9.60 988 | 28 | 9.64 926 | 34 | 0.35 074 | 9.96 062 | 6 | 58 | |
| 3 | 9.61 016 | 28 | 9.64 960 | 34 | 0.35 040 | 9.96 056 | 6 | 57 | |
| 4 | 9.61 045 | 29 | 9.64 994 | 34 | 0.35 006 | 9.96 050 | 6 | 56 | |
| 5 | 9.61 073 | 28 | 9.65 028 | 34 | 0.34 972 | 9.96 045 | 5 | 55 | |
| 6 | 9.61 101 | 28 | 9.65 062 | 34 | 0.34 938 | 9.96 039 | 6 | 54 | |
| 7 | 9.61 129 | 29 | 9.65 096 | 34 | 0.34 904 | 9.96 034 | 5 | 53 | |
| 8 | 9.61 158 | 28 | 9.65 130 | 34 | 0.34 870 | 9.96 028 | 6 | 52 | |
| 9 | 9.61 186 | 28 | 9.65 164 | 34 | 0.34 836 | 9.96 022 | 6 | 51 | |
| 10 | 9.61 214 | 28 | 9.65 197 | 34 | 0.34 803 | 9.96 017 | 5 | 50 | |
| 11 | 9.61 242 | 28 | 9.65 231 | 34 | 0.34 769 | 9.96 011 | 6 | 49 | |
| 12 | 9.61 270 | 28 | 9.65 265 | 34 | 0.34 735 | 9.96 005 | 6 | 48 | |
| 13 | 9.61 298 | 28 | 9.65 299 | 34 | 0.34 701 | 9.96 000 | 5 | 47 | |
| 14 | 9.61 326 | 28 | 9.65 333 | 34 | 0.34 667 | 9.95 994 | 6 | 46 | |
| 15 | 9.61 354 | 28 | 9.65 366 | 34 | 0.34 634 | 9.95 988 | 6 | 45 | |
| 16 | 9.61 382 | 28 | 9.65 400 | 34 | 0.34 600 | 9.95 982 | 6 | 44 | |
| 17 | 9.61 411 | 29 | 9.65 434 | 34 | 0.34 566 | 9.95 977 | 5 | 43 | |
| 18 | 9.61 438 | 27 | 9.65 467 | 33 | 0.34 533 | 9.95 971 | 6 | 42 | |
| 19 | 9.61 466 | 28 | 9.65 501 | 34 | 0.34 499 | 9.95 965 | 6 | 41 | |
| 20 | 9.61 494 | 28 | 9.65 535 | 34 | 0.34 465 | 9.95 960 | 5 | 40 | |
| 21 | 9.61 522 | 28 | 9.65 568 | 34 | 0.34 432 | 9.95 954 | 6 | 39 | |
| 22 | 9.61 550 | 28 | 9.65 602 | 34 | 0.34 398 | 9.95 948 | 6 | 38 | |
| 23 | 9.61 578 | 28 | 9.65 636 | 34 | 0.34 364 | 9.95 942 | 6 | 37 | |
| 24 | 9.61 606 | 28 | 9.65 669 | 34 | 0.34 331 | 9.95 937 | 5 | 36 | |
| 25 | 9.61 634 | 28 | 9.65 703 | 33 | 0.34 297 | 9.95 931 | 6 | 35 | |
| 26 | 9.61 662 | 28 | 9.65 736 | 34 | 0.34 264 | 9.95 925 | 6 | 34 | |
| 27 | 9.61 689 | 27 | 9.65 770 | 34 | 0.34 230 | 9.95 920 | 5 | 33 | |
| 28 | 9.61 717 | 28 | 9.65 803 | 33 | 0.34 197 | 9.95 914 | 6 | 32 | |
| 29 | 9.61 745 | 28 | 9.65 837 | 34 | 0.34 163 | 9.95 908 | 6 | 31 | |
| 30 | 9.61 773 | 28 | 9.65 870 | 34 | 0.34 130 | 9.95 902 | 6 | 30 | |
| 31 | 9.61 800 | 27 | 9.65 904 | 34 | 0.34 096 | 9.95 897 | 5 | 29 | |
| 32 | 9.61 828 | 28 | 9.65 937 | 33 | 0.34 063 | 9.95 891 | 6 | 28 | |
| 33 | 9.61 856 | 28 | 9.65 971 | 34 | 0.34 029 | 9.95 885 | 6 | 27 | |
| 34 | 9.61 883 | 27 | 9.66 004 | 33 | 0.33 996 | 9.95 879 | 6 | 26 | |
| 35 | 9.61 911 | 28 | 9.66 038 | 34 | 0.33 962 | 9.95 873 | 6 | 25 | |
| 36 | 9.61 939 | 28 | 9.66 071 | 33 | 0.33 929 | 9.95 868 | 5 | 24 | |
| 37 | 9.61 966 | 27 | 9.66 104 | 33 | 0.33 896 | 9.95 862 | 6 | 23 | |
| 38 | 9.61 994 | 28 | 9.66 138 | 34 | 0.33 862 | 9.95 856 | 6 | 22 | |
| 39 | 9.62 021 | 27 | 9.66 171 | 33 | 0.33 829 | 9.95 850 | 6 | 21 | |
| 40 | 9.62 049 | 28 | 9.66 204 | 34 | 0.33 796 | 9.95 844 | 6 | 20 | |
| 41 | 9.62 076 | 27 | 9.66 238 | 33 | 0.33 762 | 9.95 839 | 5 | 19 | |
| 42 | 9.62 104 | 28 | 9.66 271 | 33 | 0.33 729 | 9.95 833 | 6 | 18 | |
| 43 | 9.62 131 | 27 | 9.66 304 | 33 | 0.33 696 | 9.95 827 | 6 | 17 | |
| 44 | 9.62 159 | 28 | 9.66 337 | 33 | 0.33 663 | 9.95 821 | 6 | 16 | |
| 45 | 9.62 186 | 27 | 9.66 371 | 34 | 0.33 629 | 9.95 815 | 6 | 15 | |
| 46 | 9.62 214 | 28 | 9.66 404 | 33 | 0.33 596 | 9.95 810 | 5 | 14 | |
| 47 | 9.62 241 | 27 | 9.66 437 | 33 | 0.33 563 | 9.95 804 | 6 | 13 | |
| 48 | 9.62 268 | 27 | 9.66 470 | 33 | 0.33 530 | 9.95 798 | 6 | 12 | |
| 49 | 9.62 296 | 28 | 9.66 503 | 33 | 0.33 497 | 9.95 792 | 6 | 11 | |
| 50 | 9.62 323 | 27 | 9.66 537 | 34 | 0.33 463 | 9.95 786 | 6 | 10 | |
| 51 | 9.62 350 | 27 | 9.66 570 | 33 | 0.33 430 | 9.95 780 | 6 | 9 | |
| 52 | 9.62 377 | 27 | 9.66 603 | 33 | 0.33 397 | 9.95 775 | 5 | 8 | |
| 53 | 9.62 405 | 28 | 9.66 636 | 33 | 0.33 364 | 9.95 769 | 6 | 7 | |
| 54 | 9.62 432 | 27 | 9.66 669 | 33 | 0.33 331 | 9.95 763 | 6 | 6 | |
| 55 | 9.62 459 | 27 | 9.66 702 | 33 | 0.33 298 | 9.95 757 | 6 | 5 | |
| 56 | 9.62 486 | 27 | 9.66 735 | 33 | 0.33 265 | 9.95 751 | 6 | 4 | |
| 57 | 9.62 513 | 28 | 9.66 768 | 33 | 0.33 232 | 9.95 745 | 6 | 3 | |
| 58 | 9.62 541 | 27 | 9.66 801 | 33 | 0.33 199 | 9.95 739 | 6 | 2 | |
| 59 | 9.62 568 | 27 | 9.66 834 | 33 | 0.33 166 | 9.95 733 | 6 | 1 | |
| 60 | 9.62 595 | 27 | 9.66 867 | 33 | 0.33 133 | 9.95 728 | 5 | 0 | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | d | ' | Prop. Pts. |

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From the top :

For 24°+ or 204°+,
read as printed; for
114°+ or 294°+, read
co-function.

From the bottom :

For 65°+ or 245°+,
read as printed; for
155°+ or 335°+, read
co-function.

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | d | Prop. Pts. | | | |
|----|----------|----|----------|-----|----------|----------|----|------------|------|------|------|
| 0 | 9.62 595 | 27 | 9.66 867 | 33 | 0.33 133 | 9.95 728 | 60 | | | | |
| 1 | 9.62 622 | 27 | 9.66 900 | 33 | 0.33 100 | 9.95 722 | 59 | | | | |
| 2 | 9.62 649 | 27 | 9.66 933 | 33 | 0.33 067 | 9.95 716 | 58 | | | | |
| 3 | 9.62 676 | 27 | 9.66 966 | 33 | 0.33 034 | 9.95 710 | 57 | | | | |
| 4 | 9.62 703 | 27 | 9.66 999 | 33 | 0.33 001 | 9.95 704 | 56 | | | | |
| 5 | 9.62 730 | 27 | 9.67 032 | 33 | 0.32 968 | 9.95 698 | 55 | | | | |
| 6 | 9.62 757 | 27 | 9.67 065 | 33 | 0.32 935 | 9.95 692 | 54 | 2 | 6.6 | 6.4 | 5.4 |
| 7 | 9.62 784 | 27 | 9.67 098 | 33 | 0.32 902 | 9.95 686 | 53 | 3 | 9.9 | 9.6 | 8.1 |
| 8 | 9.62 811 | 27 | 9.67 131 | 33 | 0.32 869 | 9.95 680 | 52 | 4 | 13.2 | 12.8 | 10.8 |
| 9 | 9.62 838 | 27 | 9.67 163 | 32 | 0.32 837 | 9.95 674 | 51 | 5 | 16.5 | 16.0 | 13.5 |
| 10 | 9.62 865 | 27 | 9.67 196 | 33 | 0.32 804 | 9.95 668 | 50 | 6 | 19.8 | 19.2 | 16.2 |
| 11 | 9.62 892 | 27 | 9.67 229 | 33 | 0.32 771 | 9.95 663 | 49 | 7 | 23.1 | 22.4 | 18.9 |
| 12 | 9.62 918 | 26 | 9.67 262 | 33 | 0.32 738 | 9.95 657 | 48 | 8 | 26.4 | 25.6 | 21.6 |
| 13 | 9.62 945 | 27 | 9.67 295 | 33 | 0.32 705 | 9.95 651 | 47 | 9 | 29.7 | 28.8 | 24.3 |
| 14 | 9.62 972 | 27 | 9.67 327 | 33 | 0.32 673 | 9.95 645 | 46 | | | | |
| 15 | 9.62 999 | 27 | 9.67 360 | 33 | 0.32 640 | 9.95 639 | 45 | | | | |
| 16 | 9.63 026 | 27 | 9.67 393 | 33 | 0.32 607 | 9.95 633 | 44 | | | | |
| 17 | 9.63 052 | 26 | 9.67 426 | 33 | 0.32 574 | 9.95 627 | 43 | | | | |
| 18 | 9.63 079 | 27 | 9.67 458 | 32 | 0.32 542 | 9.95 621 | 42 | 2 | 5.2 | 5.1 | 4.4 |
| 19 | 9.63 106 | 27 | 9.67 491 | 33 | 0.32 509 | 9.95 615 | 41 | 3 | 7.8 | 7.6 | 6.1 |
| 20 | 9.63 133 | 26 | 9.67 524 | 32 | 0.32 476 | 9.95 609 | 40 | 4 | 10.4 | 10.2 | 8.8 |
| 21 | 9.63 159 | 27 | 9.67 556 | 33 | 0.32 444 | 9.95 603 | 39 | 5 | 13.0 | 12.8 | 11.5 |
| 22 | 9.63 186 | 27 | 9.67 589 | 33 | 0.32 411 | 9.95 597 | 38 | 6 | 15.6 | 15.4 | 14.2 |
| 23 | 9.63 213 | 27 | 9.67 622 | 33 | 0.32 378 | 9.95 591 | 37 | 7 | 18.2 | 18.0 | 17.0 |
| 24 | 9.63 239 | 26 | 9.67 654 | 33 | 0.32 346 | 9.95 585 | 36 | 8 | 20.8 | 20.6 | 19.8 |
| 25 | 9.63 266 | 26 | 9.67 687 | 32 | 0.32 313 | 9.95 579 | 35 | 9 | 23.4 | 23.2 | 22.6 |
| 26 | 9.63 292 | 27 | 9.67 719 | 33 | 0.32 281 | 9.95 573 | 34 | | | | |
| 27 | 9.63 319 | 27 | 9.67 752 | 33 | 0.32 248 | 9.95 567 | 33 | | | | |
| 28 | 9.63 345 | 26 | 9.67 785 | 33 | 0.32 215 | 9.95 561 | 32 | | | | |
| 29 | 9.63 372 | 27 | 9.67 817 | 32 | 0.32 183 | 9.95 555 | 31 | | | | |
| 30 | 9.63 398 | 26 | 9.67 850 | 33 | 0.32 150 | 9.95 549 | 30 | 2 | 1.2 | 1.2 | 1.0 |
| 31 | 9.63 425 | 27 | 9.67 882 | 32 | 0.32 118 | 9.95 543 | 29 | 3 | 1.8 | 1.8 | 1.5 |
| 32 | 9.63 451 | 26 | 9.67 915 | 33 | 0.32 085 | 9.95 537 | 28 | 4 | 2.4 | 2.4 | 2.0 |
| 33 | 9.63 478 | 27 | 9.67 947 | 32 | 0.32 053 | 9.95 531 | 27 | 5 | 3.0 | 3.0 | 2.5 |
| 34 | 9.63 504 | 26 | 9.67 980 | 33 | 0.32 020 | 9.95 525 | 26 | 6 | 3.6 | 3.6 | 3.0 |
| 35 | 9.63 531 | 27 | 9.68 012 | 32 | 0.31 988 | 9.95 519 | 25 | 7 | 4.2 | 4.2 | 3.5 |
| 36 | 9.63 557 | 26 | 9.68 044 | 33 | 0.31 956 | 9.95 513 | 24 | 8 | 4.8 | 4.8 | 4.0 |
| 37 | 9.63 583 | 27 | 9.68 077 | 33 | 0.31 923 | 9.95 507 | 23 | 9 | 5.4 | 5.4 | 4.5 |
| 38 | 9.63 610 | 26 | 9.68 109 | 32 | 0.31 891 | 9.95 500 | 22 | | | | |
| 39 | 9.63 636 | 27 | 9.68 142 | 33 | 0.31 858 | 9.95 494 | 21 | | | | |
| 40 | 9.63 662 | 26 | 9.68 174 | 32 | 0.31 826 | 9.95 488 | 20 | | | | |
| 41 | 9.63 689 | 27 | 9.68 206 | 33 | 0.31 794 | 9.95 482 | 19 | | | | |
| 42 | 9.63 715 | 26 | 9.68 239 | 32 | 0.31 761 | 9.95 476 | 18 | | | | |
| 43 | 9.63 741 | 27 | 9.68 271 | 33 | 0.31 729 | 9.95 470 | 17 | | | | |
| 44 | 9.63 767 | 26 | 9.68 303 | 32 | 0.31 697 | 9.95 464 | 16 | | | | |
| 45 | 9.63 794 | 27 | 9.68 336 | 33 | 0.31 664 | 9.95 458 | 15 | | | | |
| 46 | 9.63 820 | 26 | 9.68 368 | 32 | 0.31 632 | 9.95 452 | 14 | | | | |
| 47 | 9.63 846 | 27 | 9.68 400 | 33 | 0.31 600 | 9.95 446 | 13 | | | | |
| 48 | 9.63 872 | 26 | 9.68 432 | 32 | 0.31 568 | 9.95 440 | 12 | | | | |
| 49 | 9.63 898 | 27 | 9.68 465 | 33 | 0.31 535 | 9.95 434 | 11 | | | | |
| 50 | 9.63 924 | 26 | 9.68 497 | 32 | 0.31 503 | 9.95 427 | 10 | | | | |
| 51 | 9.63 950 | 27 | 9.68 529 | 33 | 0.31 471 | 9.95 421 | 9 | | | | |
| 52 | 9.63 976 | 26 | 9.68 561 | 32 | 0.31 439 | 9.95 415 | 8 | | | | |
| 53 | 9.64 002 | 27 | 9.68 593 | 33 | 0.31 407 | 9.95 409 | 7 | | | | |
| 54 | 9.64 028 | 26 | 9.68 626 | 32 | 0.31 374 | 9.95 403 | 6 | | | | |
| 55 | 9.64 054 | 27 | 9.68 658 | 33 | 0.31 342 | 9.95 397 | 5 | | | | |
| 56 | 9.64 080 | 26 | 9.68 690 | 32 | 0.31 310 | 9.95 391 | 4 | | | | |
| 57 | 9.64 106 | 27 | 9.68 722 | 33 | 0.31 278 | 9.95 384 | 3 | | | | |
| 58 | 9.64 132 | 26 | 9.68 754 | 32 | 0.31 246 | 9.95 378 | 2 | | | | |
| 59 | 9.64 158 | 27 | 9.68 786 | 33 | 0.31 214 | 9.95 372 | 1 | | | | |
| 60 | 9.64 184 | 26 | 9.68 818 | 32 | 0.31 182 | 9.95 366 | 0 | | | | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | d | Prop. Pts. | | | |

From the top:

For $25^{\circ}+$ or $205^{\circ}+$,
read as printed; for
 $115^{\circ}+$ or $295^{\circ}+$, read
co-function.

From the bottom:

For $64^{\circ}+$ or $244^{\circ}+$,
read as printed; for
 $154^{\circ}+$ or $334^{\circ}+$, read
co-function.

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | d | | Prop. Pts. |
|----|----------|----|----------|-----|----------|----------|----|----|------------------|
| 0 | 9.64 184 | | 9.68 818 | | 0.31 182 | 9.95 366 | | 60 | |
| 1 | 9.64 210 | 26 | 9.68 850 | 32 | 0.31 150 | 9.95 360 | 6 | 59 | |
| 2 | 9.64 236 | 26 | 9.68 882 | 32 | 0.31 118 | 9.95 354 | 6 | 58 | |
| 3 | 9.64 262 | 26 | 9.68 914 | 32 | 0.31 086 | 9.95 348 | 6 | 57 | |
| 4 | 9.64 288 | 26 | 9.68 946 | 32 | 0.31 054 | 9.95 341 | 7 | 56 | |
| 5 | 9.64 313 | 25 | 9.68 978 | 32 | 0.31 022 | 9.95 335 | 6 | 55 | 32 31 26 |
| 6 | 9.64 339 | 26 | 9.69 010 | 32 | 0.30 990 | 9.95 329 | 6 | 54 | 2 6.4 6.2 5.2 |
| 7 | 9.64 365 | 26 | 9.69 042 | 32 | 0.30 958 | 9.95 323 | 6 | 53 | 3 9.6 9.3 7.8 |
| 8 | 9.64 391 | 26 | 9.69 074 | 32 | 0.30 926 | 9.95 317 | 6 | 52 | 4 12.8 12.4 10.4 |
| 9 | 9.64 417 | 26 | 9.69 106 | 32 | 0.30 894 | 9.95 310 | 7 | 51 | 5 16.0 15.5 13.0 |
| 10 | 9.64 442 | 25 | 9.69 138 | 32 | 0.30 862 | 9.95 304 | 6 | 50 | 6 19.2 18.6 15.6 |
| 11 | 9.64 468 | 26 | 9.69 170 | 32 | 0.30 830 | 9.95 298 | 6 | 49 | 7 22.4 21.7 18.2 |
| 12 | 9.64 494 | 26 | 9.69 202 | 32 | 0.30 798 | 9.95 292 | 6 | 48 | 8 25.6 24.8 20.8 |
| 13 | 9.64 519 | 25 | 9.69 234 | 32 | 0.30 766 | 9.95 286 | -6 | 47 | 9 28.8 27.9 23.4 |
| 14 | 9.64 545 | 26 | 9.69 266 | 32 | 0.30 734 | 9.95 279 | 7 | 46 | |
| 15 | 9.64 571 | 26 | 9.69 298 | 32 | 0.30 702 | 9.95 273 | 6 | 45 | |
| 16 | 9.64 596 | 25 | 9.69 329 | 31 | 0.30 671 | 9.95 267 | 6 | 44 | 25 24 |
| 17 | 9.64 622 | 26 | 9.69 361 | 32 | 0.30 639 | 9.95 261 | 6 | 43 | |
| 18 | 9.64 647 | 25 | 9.69 393 | 32 | 0.30 607 | 9.95 254 | 7 | 42 | 2 5.0 4.8 |
| 19 | 9.64 673 | 26 | 9.69 425 | 32 | 0.30 575 | 9.95 248 | 6 | 41 | 3 7.5 7.2 |
| 20 | 9.64 698 | 25 | 9.69 457 | 32 | 0.30 543 | 9.95 242 | 6 | 40 | 4 10.0 9.6 |
| 21 | 9.64 724 | 26 | 9.69 488 | 31 | 0.30 512 | 9.95 236 | 6 | 39 | 5 12.5 12.0 |
| 22 | 9.64 749 | 25 | 9.69 520 | 32 | 0.30 480 | 9.95 229 | 7 | 38 | 6 15.0 14.4 |
| 23 | 9.64 775 | 26 | 9.69 552 | 32 | 0.30 448 | 9.95 223 | 6 | 37 | 7 17.5 16.8 |
| 24 | 9.64 800 | 25 | 9.69 584 | 32 | 0.30 416 | 9.95 217 | 6 | 36 | 8 20.0 19.2 |
| 25 | 9.64 826 | 26 | 9.69 615 | 31 | 0.30 385 | 9.95 211 | 6 | 35 | 9 22.5 21.6 |
| 26 | 9.64 851 | 25 | 9.69 647 | 32 | 0.30 353 | 9.95 204 | 7 | 34 | |
| 27 | 9.64 877 | 26 | 9.69 679 | 32 | 0.30 321 | 9.95 198 | 6 | 33 | |
| 28 | 9.64 902 | 25 | 9.69 710 | 31 | 0.30 290 | 9.95 192 | 6 | 32 | 7 6 |
| 29 | 9.64 927 | 26 | 9.69 742 | 32 | 0.30 258 | 9.95 185 | 7 | 31 | 2 1.4 1.2 |
| 30 | 9.64 953 | 25 | 9.69 774 | 32 | 0.30 226 | 9.95 179 | 6 | 30 | 3 2.1 1.8 |
| 31 | 9.64 978 | 25 | 9.69 805 | 31 | 0.30 195 | 9.95 173 | 6 | 29 | 4 2.8 2.4 |
| 32 | 9.65 003 | 26 | 9.69 837 | 32 | 0.30 163 | 9.95 167 | 6 | 28 | 5 3.5 3.0 |
| 33 | 9.65 029 | 25 | 9.69 868 | 31 | 0.30 132 | 9.95 160 | 7 | 27 | 6 4.2 3.6 |
| 34 | 9.65 054 | 26 | 9.69 900 | 32 | 0.30 100 | 9.95 154 | 6 | 26 | 7 4.9 4.2 |
| 35 | 9.65 079 | 25 | 9.69 932 | 32 | 0.30 068 | 9.95 148 | 6 | 25 | 8 5.6 4.8 |
| 36 | 9.65 104 | 26 | 9.69 963 | 31 | 0.30 037 | 9.95 141 | 7 | 24 | 9 6.3 5.4 |
| 37 | 9.65 130 | 25 | 9.69 995 | 32 | 0.30 005 | 9.95 135 | 6 | 23 | |
| 38 | 9.65 155 | 26 | 9.70 026 | 31 | 0.29 974 | 9.95 129 | 6 | 22 | |
| 39 | 9.65 180 | 25 | 9.70 058 | 32 | 0.29 942 | 9.95 122 | 7 | 21 | |
| 40 | 9.65 205 | 26 | 9.70 089 | 31 | 0.29 911 | 9.95 116 | 6 | 20 | |
| 41 | 9.65 230 | 25 | 9.70 121 | 32 | 0.29 879 | 9.95 110 | 6 | 19 | |
| 42 | 9.65 255 | 26 | 9.70 152 | 31 | 0.29 848 | 9.95 103 | 7 | 18 | |
| 43 | 9.65 281 | 25 | 9.70 184 | 32 | 0.29 816 | 9.95 097 | 6 | 17 | |
| 44 | 9.65 306 | 26 | 9.70 215 | 31 | 0.29 785 | 9.95 090 | 7 | 16 | |
| 45 | 9.65 331 | 25 | 9.70 247 | 32 | 0.29 753 | 9.95 084 | 6 | 15 | |
| 46 | 9.65 356 | 26 | 9.70 278 | 31 | 0.29 722 | 9.95 078 | 6 | 14 | |
| 47 | 9.65 381 | 25 | 9.70 309 | 32 | 0.29 691 | 9.95 071 | 7 | 13 | |
| 48 | 9.65 406 | 26 | 9.70 341 | 31 | 0.29 659 | 9.95 065 | 6 | 12 | |
| 49 | 9.65 431 | 25 | 9.70 372 | 32 | 0.29 628 | 9.95 059 | 6 | 11 | |
| 50 | 9.65 456 | 26 | 9.70 404 | 31 | 0.29 596 | 9.95 052 | 7 | 10 | |
| 51 | 9.65 481 | 25 | 9.70 435 | 32 | 0.29 565 | 9.95 046 | 6 | 9 | |
| 52 | 9.65 506 | 26 | 9.70 466 | 31 | 0.29 534 | 9.95 039 | 7 | 8 | |
| 53 | 9.65 531 | 25 | 9.70 498 | 32 | 0.29 502 | 9.95 033 | 6 | 7 | |
| 54 | 9.65 556 | 26 | 9.70 529 | 31 | 0.29 471 | 9.95 027 | 6 | 6 | |
| 55 | 9.65 580 | 24 | 9.70 560 | 31 | 0.29 440 | 9.95 020 | 7 | 5 | |
| 56 | 9.65 605 | 25 | 9.70 592 | 32 | 0.29 408 | 9.95 014 | 6 | 4 | |
| 57 | 9.65 630 | 26 | 9.70 623 | 31 | 0.29 377 | 9.95 007 | 7 | 3 | |
| 58 | 9.65 655 | 25 | 9.70 654 | 31 | 0.29 346 | 9.95 001 | 6 | 2 | |
| 59 | 9.65 680 | 26 | 9.70 685 | 32 | 0.29 315 | 9.94 995 | 6 | 1 | |
| 60 | 9.65 705 | 25 | 9.70 717 | 32 | 0.29 283 | 9.94 988 | 7 | 0 | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | d | ' | Prop. Pts. |

From the top:

For 26°+ or 206°+,
read as printed; for
116°+ or 296°+, read
co-function.

From the bottom:

For 63°+ or 243°+,
read as printed; for
153°+ or 333°+, read
co-function.

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | d | | Prop. Pts. | | | |
|----|----------|----|----------|-----|----------|----------|---|-----------|------------|-----------|-----------|------|
| 0 | 9.65 705 | | 9.70 717 | | 0.29 283 | 9.94 988 | | 60 | | | | |
| 1 | 9.65 729 | 24 | 9.70 748 | 31 | 0.29 252 | 9.94 982 | 6 | 59 | | | | |
| 2 | 9.65 754 | 25 | 9.70 779 | 31 | 0.29 221 | 9.94 975 | 7 | 58 | | | | |
| 3 | 9.65 779 | 25 | 9.70 810 | 31 | 0.29 190 | 9.94 969 | 6 | 57 | | | | |
| 4 | 9.65 804 | 24 | 9.70 841 | 32 | 0.29 159 | 9.94 962 | 7 | 56 | | | | |
| 5 | 9.65 828 | 25 | 9.70 873 | 31 | 0.29 127 | 9.94 956 | 6 | 55 | 32 | 31 | 30 | |
| 6 | 9.65 853 | 25 | 9.70 904 | 31 | 0.29 096 | 9.94 949 | 7 | 54 | 2 | 6.4 | 6.2 | 6.0 |
| 7 | 9.65 878 | 24 | 9.70 935 | 31 | 0.29 065 | 9.94 943 | 6 | 53 | 3 | 9.6 | 9.3 | 9.0 |
| 8 | 9.65 902 | 24 | 9.70 966 | 31 | 0.29 034 | 9.94 936 | 7 | 52 | 4 | 12.8 | 12.4 | 12.0 |
| 9 | 9.65 927 | 25 | 9.70 997 | 31 | 0.29 003 | 9.94 930 | 6 | 51 | 5 | 16.0 | 15.5 | 15.0 |
| 10 | 9.65 952 | 24 | 9.71 028 | 31 | 0.28 972 | 9.94 923 | 7 | 50 | 6 | 19.2 | 18.6 | 18.0 |
| 11 | 9.65 976 | 25 | 9.71 059 | 31 | 0.28 941 | 9.94 917 | 6 | 49 | 7 | 22.4 | 21.7 | 21.0 |
| 12 | 9.66 001 | 24 | 9.71 090 | 31 | 0.28 910 | 9.94 911 | 6 | 48 | 8 | 25.6 | 24.8 | 24.0 |
| 13 | 9.66 025 | 25 | 9.71 121 | 32 | 0.28 879 | 9.94 904 | 7 | 47 | 9 | 28.8 | 27.9 | 27.0 |
| 14 | 9.66 050 | 25 | 9.71 153 | 31 | 0.28 847 | 9.94 898 | 6 | 46 | | | | |
| 15 | 9.66 075 | 24 | 9.71 184 | 31 | 0.28 816 | 9.94 891 | 7 | 45 | | | | |
| 16 | 9.66 099 | 25 | 9.71 215 | 31 | 0.28 785 | 9.94 885 | 6 | 44 | 25 | 24 | 23 | |
| 17 | 9.66 124 | 24 | 9.71 246 | 31 | 0.28 754 | 9.94 878 | 7 | 43 | 2 | 5.0 | 4.8 | 4.6 |
| 18 | 9.66 148 | 25 | 9.71 277 | 31 | 0.28 723 | 9.94 871 | 6 | 42 | 3 | 7.5 | 7.2 | 6.9 |
| 19 | 9.66 173 | 24 | 9.71 308 | 31 | 0.28 692 | 9.94 865 | 7 | 41 | 4 | 10.0 | 9.6 | 9.2 |
| 20 | 9.66 197 | 25 | 9.71 339 | 31 | 0.28 661 | 9.94 858 | 6 | 40 | 5 | 12.5 | 12.0 | 11.5 |
| 21 | 9.66 221 | 24 | 9.71 370 | 31 | 0.28 630 | 9.94 852 | 7 | 39 | 6 | 15.0 | 14.4 | 13.8 |
| 22 | 9.66 246 | 25 | 9.71 401 | 31 | 0.28 599 | 9.94 845 | 6 | 38 | 7 | 17.5 | 16.8 | 16.1 |
| 23 | 9.66 270 | 24 | 9.71 431 | 30 | 0.28 569 | 9.94 839 | 7 | 37 | 8 | 20.0 | 19.2 | 18.4 |
| 24 | 9.66 295 | 25 | 9.71 462 | 31 | 0.28 538 | 9.94 832 | 6 | 36 | 9 | 22.5 | 21.6 | 20.7 |
| 25 | 9.66 319 | 24 | 9.71 493 | 31 | 0.28 507 | 9.94 826 | 7 | 35 | | | | |
| 26 | 9.66 343 | 25 | 9.71 524 | 31 | 0.28 476 | 9.94 819 | 6 | 34 | | | | |
| 27 | 9.66 368 | 24 | 9.71 555 | 31 | 0.28 445 | 9.94 813 | 7 | 33 | 7 | 6 | | |
| 28 | 9.66 392 | 25 | 9.71 586 | 31 | 0.28 414 | 9.94 806 | 6 | 32 | 2 | 1.4 | 1.2 | |
| 29 | 9.66 416 | 24 | 9.71 617 | 31 | 0.28 383 | 9.94 799 | 7 | 31 | 3 | 2.1 | 1.8 | |
| 30 | 9.66 441 | 25 | 9.71 648 | 31 | 0.28 352 | 9.94 793 | 6 | 30 | 4 | 2.8 | 2.4 | |
| 31 | 9.66 465 | 24 | 9.71 679 | 30 | 0.28 321 | 9.94 786 | 7 | 29 | 5 | 3.5 | 3.0 | |
| 32 | 9.66 489 | 25 | 9.71 709 | 31 | 0.28 291 | 9.94 780 | 6 | 28 | 6 | 4.2 | 3.6 | |
| 33 | 9.66 513 | 24 | 9.71 740 | 31 | 0.28 260 | 9.94 773 | 7 | 27 | 7 | 4.9 | 4.2 | |
| 34 | 9.66 537 | 25 | 9.71 771 | 31 | 0.28 229 | 9.94 767 | 6 | 26 | 8 | 5.6 | 4.8 | |
| 35 | 9.66 562 | 24 | 9.71 802 | 31 | 0.28 198 | 9.94 760 | 7 | 25 | 9 | 6.3 | 5.4 | |
| 36 | 9.66 586 | 25 | 9.71 833 | 30 | 0.28 167 | 9.94 753 | 6 | 24 | | | | |
| 37 | 9.66 610 | 24 | 9.71 863 | 31 | 0.28 137 | 9.94 747 | 7 | 23 | | | | |
| 38 | 9.66 634 | 25 | 9.71 894 | 31 | 0.28 106 | 9.94 740 | 6 | 22 | | | | |
| 39 | 9.66 658 | 24 | 9.71 925 | 30 | 0.28 075 | 9.94 734 | 7 | 21 | | | | |
| 40 | 9.66 682 | 25 | 9.71 955 | 31 | 0.28 045 | 9.94 727 | 6 | 20 | | | | |
| 41 | 9.66 706 | 24 | 9.71 986 | 31 | 0.28 014 | 9.94 720 | 7 | 19 | | | | |
| 42 | 9.66 731 | 25 | 9.72 017 | 31 | 0.27 983 | 9.94 714 | 6 | 18 | | | | |
| 43 | 9.66 755 | 24 | 9.72 048 | 31 | 0.27 952 | 9.94 707 | 7 | 17 | | | | |
| 44 | 9.66 779 | 25 | 9.72 078 | 30 | 0.27 922 | 9.94 700 | 6 | 16 | | | | |
| 45 | 9.66 803 | 24 | 9.72 109 | 31 | 0.27 891 | 9.94 694 | 7 | 15 | | | | |
| 46 | 9.66 827 | 25 | 9.72 140 | 31 | 0.27 860 | 9.94 687 | 6 | 14 | | | | |
| 47 | 9.66 851 | 24 | 9.72 170 | 30 | 0.27 830 | 9.94 680 | 7 | 13 | | | | |
| 48 | 9.66 875 | 25 | 9.72 201 | 31 | 0.27 799 | 9.94 674 | 6 | 12 | | | | |
| 49 | 9.66 899 | 24 | 9.72 231 | 30 | 0.27 769 | 9.94 667 | 7 | 11 | | | | |
| 50 | 9.66 922 | 25 | 9.72 262 | 31 | 0.27 738 | 9.94 660 | 6 | 10 | | | | |
| 51 | 9.66 946 | 24 | 9.72 293 | 31 | 0.27 707 | 9.94 654 | 7 | 9 | | | | |
| 52 | 9.66 970 | 25 | 9.72 323 | 30 | 0.27 677 | 9.94 647 | 6 | 8 | | | | |
| 53 | 9.66 994 | 24 | 9.72 354 | 31 | 0.27 646 | 9.94 640 | 7 | 7 | | | | |
| 54 | 9.67 018 | 25 | 9.72 384 | 30 | 0.27 616 | 9.94 634 | 6 | 6 | | | | |
| 55 | 9.67 042 | 24 | 9.72 415 | 31 | 0.27 585 | 9.94 627 | 7 | 5 | | | | |
| 56 | 9.67 066 | 25 | 9.72 445 | 31 | 0.27 555 | 9.94 620 | 6 | 4 | | | | |
| 57 | 9.67 090 | 24 | 9.72 476 | 31 | 0.27 524 | 9.94 614 | 7 | 3 | | | | |
| 58 | 9.67 113 | 23 | 9.72 506 | 30 | 0.27 494 | 9.94 607 | 6 | 2 | | | | |
| 59 | 9.67 137 | 24 | 9.72 537 | 31 | 0.27 463 | 9.94 600 | 7 | 1 | | | | |
| 60 | 9.67 161 | 24 | 9.72 567 | 30 | 0.27 433 | 9.94 593 | 6 | 0 | | | | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | d | ' | Prop. Pts. | | | |

| | | L Sin | | d | L Tan | | c d | L Ctn | | L Cos | | d | Prop. Pts. | | | |
|----|----------|-------|----------|-----|----------|----------|-----|-------|--|-------|--|---|------------|--|--|--|
| 0 | 9.67 161 | 24 | 9.72 567 | 31 | 0.27 433 | 9.94 593 | 6 | 60 | | | | | | | | |
| 1 | 9.67 185 | 23 | 9.72 598 | 30 | 0.27 402 | 9.94 587 | 7 | 59 | | | | | | | | |
| 2 | 9.67 208 | 24 | 9.72 628 | 31 | 0.27 372 | 9.94 580 | 7 | 58 | | | | | | | | |
| 3 | 9.67 232 | 24 | 9.72 659 | 30 | 0.27 341 | 9.94 573 | 7 | 57 | | | | | | | | |
| 4 | 9.67 256 | 24 | 9.72 689 | 30 | 0.27 311 | 9.94 567 | 6 | 56 | | | | | | | | |
| 5 | 9.67 280 | 23 | 9.72 720 | 31 | 0.27 280 | 9.94 560 | 7 | 55 | | | | | | | | |
| 6 | 9.67 303 | 24 | 9.72 750 | 30 | 0.27 250 | 9.94 553 | 7 | 54 | | | | | | | | |
| 7 | 9.67 327 | 23 | 9.72 780 | 31 | 0.27 220 | 9.94 546 | 6 | 53 | | | | | | | | |
| 8 | 9.67 350 | 24 | 9.72 811 | 30 | 0.27 189 | 9.94 540 | 7 | 52 | | | | | | | | |
| 9 | 9.67 374 | 24 | 9.72 841 | 31 | 0.27 159 | 9.94 533 | 7 | 51 | | | | | | | | |
| 10 | 9.67 398 | 23 | 9.72 872 | 30 | 0.27 128 | 9.94 526 | 7 | 50 | | | | | | | | |
| 11 | 9.67 421 | 24 | 9.72 902 | 30 | 0.27 098 | 9.94 519 | 6 | 49 | | | | | | | | |
| 12 | 9.67 445 | 23 | 9.72 932 | 31 | 0.27 068 | 9.94 513 | 7 | 48 | | | | | | | | |
| 13 | 9.67 468 | 24 | 9.72 963 | 30 | 0.27 037 | 9.94 506 | 7 | 47 | | | | | | | | |
| 14 | 9.67 492 | 23 | 9.72 993 | 30 | 0.27 007 | 9.94 499 | 7 | 46 | | | | | | | | |
| 15 | 9.67 515 | 24 | 9.73 023 | 31 | 0.26 977 | 9.94 492 | 7 | 45 | | | | | | | | |
| 16 | 9.67 539 | 23 | 9.73 054 | 30 | 0.26 946 | 9.94 485 | 6 | 44 | | | | | | | | |
| 17 | 9.67 562 | 24 | 9.73 084 | 30 | 0.26 916 | 9.94 479 | 7 | 43 | | | | | | | | |
| 18 | 9.67 586 | 23 | 9.73 114 | 30 | 0.26 886 | 9.94 472 | 7 | 42 | | | | | | | | |
| 19 | 9.67 609 | 24 | 9.73 144 | 31 | 0.26 856 | 9.94 465 | 7 | 41 | | | | | | | | |
| 20 | 9.67 633 | 23 | 9.73 175 | 30 | 0.26 825 | 9.94 458 | 7 | 40 | | | | | | | | |
| 21 | 9.67 656 | 24 | 9.73 205 | 30 | 0.26 795 | 9.94 451 | 6 | 39 | | | | | | | | |
| 22 | 9.67 680 | 23 | 9.73 235 | 30 | 0.26 765 | 9.94 445 | 7 | 38 | | | | | | | | |
| 23 | 9.67 703 | 23 | 9.73 265 | 30 | 0.26 735 | 9.94 438 | 7 | 37 | | | | | | | | |
| 24 | 9.67 726 | 24 | 9.73 295 | 31 | 0.26 705 | 9.94 431 | 7 | 36 | | | | | | | | |
| 25 | 9.67 750 | 23 | 9.73 326 | 30 | 0.26 674 | 9.94 424 | 7 | 35 | | | | | | | | |
| 26 | 9.67 773 | 23 | 9.73 356 | 30 | 0.26 644 | 9.94 417 | 7 | 34 | | | | | | | | |
| 27 | 9.67 796 | 24 | 9.73 386 | 30 | 0.26 614 | 9.94 410 | 6 | 33 | | | | | | | | |
| 28 | 9.67 820 | 23 | 9.73 416 | 30 | 0.26 584 | 9.94 404 | 7 | 32 | | | | | | | | |
| 29 | 9.67 843 | 23 | 9.73 446 | 30 | 0.26 554 | 9.94 397 | 7 | 31 | | | | | | | | |
| 30 | 9.67 866 | 24 | 9.73 476 | 31 | 0.26 524 | 9.94 390 | 7 | 30 | | | | | | | | |
| 31 | 9.67 890 | 23 | 9.73 507 | 30 | 0.26 493 | 9.94 383 | 7 | 29 | | | | | | | | |
| 32 | 9.67 913 | 23 | 9.73 537 | 30 | 0.26 463 | 9.94 376 | 7 | 28 | | | | | | | | |
| 33 | 9.67 936 | 23 | 9.73 567 | 30 | 0.26 433 | 9.94 369 | 7 | 27 | | | | | | | | |
| 34 | 9.67 959 | 23 | 9.73 597 | 30 | 0.26 403 | 9.94 362 | 7 | 26 | | | | | | | | |
| 35 | 9.67 982 | 24 | 9.73 627 | 30 | 0.26 373 | 9.94 355 | 6 | 25 | | | | | | | | |
| 36 | 9.68 006 | 23 | 9.73 657 | 30 | 0.26 343 | 9.94 349 | 7 | 24 | | | | | | | | |
| 37 | 9.68 029 | 23 | 9.73 687 | 30 | 0.26 313 | 9.94 342 | 7 | 23 | | | | | | | | |
| 38 | 9.68 052 | 23 | 9.73 717 | 30 | 0.26 283 | 9.94 335 | 7 | 22 | | | | | | | | |
| 39 | 9.68 075 | 23 | 9.73 747 | 30 | 0.26 253 | 9.94 328 | 7 | 21 | | | | | | | | |
| 40 | 9.68 098 | 23 | 9.73 777 | 30 | 0.26 223 | 9.94 321 | 7 | 20 | | | | | | | | |
| 41 | 9.68 121 | 23 | 9.73 807 | 30 | 0.26 193 | 9.94 314 | 7 | 19 | | | | | | | | |
| 42 | 9.68 144 | 23 | 9.73 837 | 30 | 0.26 163 | 9.94 307 | 7 | 18 | | | | | | | | |
| 43 | 9.68 167 | 23 | 9.73 867 | 30 | 0.26 133 | 9.94 300 | 7 | 17 | | | | | | | | |
| 44 | 9.68 190 | 23 | 9.73 897 | 30 | 0.26 103 | 9.94 293 | 7 | 16 | | | | | | | | |
| 45 | 9.68 213 | 24 | 9.73 927 | 30 | 0.26 073 | 9.94 286 | 6 | 15 | | | | | | | | |
| 46 | 9.68 237 | 23 | 9.73 957 | 30 | 0.26 043 | 9.94 279 | 7 | 14 | | | | | | | | |
| 47 | 9.68 260 | 23 | 9.73 987 | 30 | 0.26 013 | 9.94 273 | 7 | 13 | | | | | | | | |
| 48 | 9.68 283 | 22 | 9.74 017 | 30 | 0.25 983 | 9.94 266 | 7 | 12 | | | | | | | | |
| 49 | 9.68 305 | 23 | 9.74 047 | 30 | 0.25 953 | 9.94 259 | 7 | 11 | | | | | | | | |
| 50 | 9.68 328 | 23 | 9.74 077 | 30 | 0.25 923 | 9.94 252 | 7 | 10 | | | | | | | | |
| 51 | 9.68 351 | 23 | 9.74 107 | 30 | 0.25 893 | 9.94 245 | 7 | 9 | | | | | | | | |
| 52 | 9.68 374 | 23 | 9.74 137 | 29 | 0.25 863 | 9.94 238 | 7 | 8 | | | | | | | | |
| 53 | 9.68 397 | 23 | 9.74 166 | 30 | 0.25 834 | 9.94 231 | 7 | 7 | | | | | | | | |
| 54 | 9.68 420 | 23 | 9.74 196 | 30 | 0.25 804 | 9.94 224 | 7 | 6 | | | | | | | | |
| 55 | 9.68 443 | 23 | 9.74 226 | 30 | 0.25 774 | 9.94 217 | 7 | 5 | | | | | | | | |
| 56 | 9.68 466 | 23 | 9.74 256 | 30 | 0.25 744 | 9.94 210 | 7 | 4 | | | | | | | | |
| 57 | 9.68 489 | 23 | 9.74 286 | 30 | 0.25 714 | 9.94 203 | 7 | 3 | | | | | | | | |
| 58 | 9.68 512 | 22 | 9.74 316 | 29 | 0.25 684 | 9.94 196 | 7 | 2 | | | | | | | | |
| 59 | 9.68 534 | 23 | 9.74 345 | 30 | 0.25 655 | 9.94 189 | 7 | 1 | | | | | | | | |
| 60 | 9.68 557 | | 9.74 375 | | 0.25 625 | 9.94 182 | 7 | 0 | | | | | | | | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | d | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

| <i>l</i> | L Sin | <i>d</i> | L Tan | <i>c d</i> | L Ctn | L Cos | <i>d</i> | Prop. Pts. | | | |
|-----------|----------|----------|----------|------------|----------|----------|-----------|------------|--|--|--|
| 0 | 9.68 557 | 23 | 9.74 375 | 30 | 0.25 625 | 9.94 182 | 60 | | | | |
| 1 | 9.68 580 | 23 | 9.74 405 | 30 | 0.25 595 | 9.94 175 | 59 | | | | |
| 2 | 9.68 603 | 22 | 9.74 435 | 30 | 0.25 565 | 9.94 168 | 58 | | | | |
| 3 | 9.68 625 | 22 | 9.74 465 | 30 | 0.25 535 | 9.94 161 | 57 | | | | |
| 4 | 9.68 648 | 23 | 9.74 494 | 29 | 0.25 506 | 9.94 154 | 56 | | | | |
| | | 23 | | 30 | | | 55 | | | | |
| 5 | 9.68 671 | 23 | 9.74 524 | 30 | 0.25 476 | 9.94 147 | 54 | | | | |
| 6 | 9.68 694 | 22 | 9.74 554 | 29 | 0.25 446 | 9.94 140 | 53 | | | | |
| 7 | 9.68 716 | 23 | 9.74 583 | 30 | 0.25 417 | 9.94 133 | 52 | | | | |
| 8 | 9.68 739 | 23 | 9.74 613 | 30 | 0.25 387 | 9.94 126 | 51 | | | | |
| 9 | 9.68 762 | 22 | 9.74 643 | 30 | 0.25 357 | 9.94 119 | 50 | | | | |
| | | 22 | | 29 | | | 49 | | | | |
| 10 | 9.68 784 | 23 | 9.74 673 | 30 | 0.25 327 | 9.94 112 | 48 | | | | |
| 11 | 9.68 807 | 22 | 9.74 702 | 30 | 0.25 298 | 9.94 105 | 47 | | | | |
| 12 | 9.68 829 | 23 | 9.74 732 | 30 | 0.25 268 | 9.94 098 | 46 | | | | |
| 13 | 9.68 852 | 23 | 9.74 762 | 29 | 0.25 238 | 9.94 090 | 45 | | | | |
| 14 | 9.68 875 | 22 | 9.74 791 | 30 | 0.25 209 | 9.94 083 | 44 | | | | |
| | | 22 | | 29 | | | 43 | | | | |
| 15 | 9.68 897 | 23 | 9.74 821 | 30 | 0.25 179 | 9.94 076 | 42 | | | | |
| 16 | 9.68 920 | 22 | 9.74 851 | 29 | 0.25 149 | 9.94 069 | 41 | | | | |
| 17 | 9.68 942 | 23 | 9.74 880 | 30 | 0.25 120 | 9.94 062 | 40 | | | | |
| 18 | 9.68 965 | 22 | 9.74 910 | 29 | 0.25 090 | 9.94 055 | 39 | | | | |
| 19 | 9.68 987 | 23 | 9.74 939 | 30 | 0.25 061 | 9.94 048 | 38 | | | | |
| | | 23 | | 29 | | | 37 | | | | |
| 20 | 9.69 010 | 22 | 9.74 969 | 30 | 0.25 031 | 9.94 041 | 36 | | | | |
| 21 | 9.69 032 | 23 | 9.74 998 | 29 | 0.25 002 | 9.94 034 | 35 | | | | |
| 22 | 9.69 055 | 22 | 9.75 028 | 30 | 0.24 972 | 9.94 027 | 34 | | | | |
| 23 | 9.69 077 | 23 | 9.75 058 | 29 | 0.24 942 | 9.94 020 | 33 | | | | |
| 24 | 9.69 100 | 22 | 9.75 087 | 30 | 0.24 913 | 9.94 012 | 32 | | | | |
| | | 22 | | 29 | | | 31 | | | | |
| 25 | 9.69 122 | 23 | 9.75 117 | 30 | 0.24 883 | 9.94 005 | 30 | | | | |
| 26 | 9.69 144 | 22 | 9.75 146 | 29 | 0.24 854 | 9.93 998 | 29 | | | | |
| 27 | 9.69 167 | 23 | 9.75 176 | 30 | 0.24 824 | 9.93 991 | 28 | | | | |
| 28 | 9.69 189 | 22 | 9.75 205 | 29 | 0.24 795 | 9.93 984 | 27 | | | | |
| 29 | 9.69 212 | 23 | 9.75 235 | 30 | 0.24 765 | 9.93 977 | 26 | | | | |
| | | 22 | | 29 | | | 25 | | | | |
| 30 | 9.69 234 | 22 | 9.75 264 | 30 | 0.24 736 | 9.93 970 | 24 | | | | |
| 31 | 9.69 256 | 23 | 9.75 294 | 29 | 0.24 706 | 9.93 963 | 23 | | | | |
| 32 | 9.69 279 | 22 | 9.75 323 | 30 | 0.24 677 | 9.93 955 | 22 | | | | |
| 33 | 9.69 301 | 23 | 9.75 353 | 29 | 0.24 647 | 9.93 948 | 21 | | | | |
| 34 | 9.69 323 | 22 | 9.75 382 | 30 | 0.24 618 | 9.93 941 | 20 | | | | |
| | | 22 | | 29 | | | 19 | | | | |
| 35 | 9.69 345 | 23 | 9.75 411 | 30 | 0.24 589 | 9.93 934 | 18 | | | | |
| 36 | 9.69 368 | 22 | 9.75 441 | 29 | 0.24 559 | 9.93 927 | 17 | | | | |
| 37 | 9.69 390 | 23 | 9.75 470 | 30 | 0.24 530 | 9.93 920 | 16 | | | | |
| 38 | 9.69 412 | 22 | 9.75 500 | 29 | 0.24 500 | 9.93 912 | 15 | | | | |
| 39 | 9.69 434 | 23 | 9.75 529 | 30 | 0.24 471 | 9.93 905 | 14 | | | | |
| | | 22 | | 29 | | | 13 | | | | |
| 40 | 9.69 456 | 23 | 9.75 558 | 30 | 0.24 442 | 9.93 898 | 12 | | | | |
| 41 | 9.69 479 | 22 | 9.75 588 | 29 | 0.24 412 | 9.93 891 | 11 | | | | |
| 42 | 9.69 501 | 23 | 9.75 617 | 30 | 0.24 383 | 9.93 884 | 10 | | | | |
| 43 | 9.69 523 | 22 | 9.75 647 | 29 | 0.24 353 | 9.93 876 | 9 | | | | |
| 44 | 9.69 545 | 23 | 9.75 676 | 30 | 0.24 324 | 9.93 869 | 8 | | | | |
| | | 22 | | 29 | | | 7 | | | | |
| 45 | 9.69 567 | 23 | 9.75 705 | 30 | 0.24 295 | 9.93 862 | 6 | | | | |
| 46 | 9.69 589 | 22 | 9.75 735 | 29 | 0.24 265 | 9.93 855 | 5 | | | | |
| 47 | 9.69 611 | 23 | 9.75 764 | 30 | 0.24 236 | 9.93 847 | 4 | | | | |
| 48 | 9.69 633 | 22 | 9.75 793 | 29 | 0.24 207 | 9.93 840 | 3 | | | | |
| 49 | 9.69 655 | 23 | 9.75 822 | 30 | 0.24 178 | 9.93 833 | 2 | | | | |
| | | 22 | | 29 | | | 1 | | | | |
| 50 | 9.69 677 | 23 | 9.75 852 | 30 | 0.24 148 | 9.93 826 | 0 | | | | |
| 51 | 9.69 699 | 22 | 9.75 881 | 29 | 0.24 119 | 9.93 819 | | | | | |
| 52 | 9.69 721 | 23 | 9.75 910 | 30 | 0.24 090 | 9.93 811 | | | | | |
| 53 | 9.69 743 | 22 | 9.75 939 | 29 | 0.24 061 | 9.93 804 | | | | | |
| 54 | 9.69 765 | 23 | 9.75 969 | 30 | 0.24 031 | 9.93 797 | | | | | |
| | | 22 | | 29 | | | | | | | |
| 55 | 9.69 787 | 23 | 9.75 998 | 30 | 0.24 002 | 9.93 789 | | | | | |
| 56 | 9.69 809 | 22 | 9.76 027 | 29 | 0.23 973 | 9.93 782 | | | | | |
| 57 | 9.69 831 | 23 | 9.76 056 | 30 | 0.23 944 | 9.93 775 | | | | | |
| 58 | 9.69 853 | 22 | 9.76 086 | 29 | 0.23 914 | 9.93 768 | | | | | |
| 59 | 9.69 875 | 23 | 9.76 115 | 30 | 0.23 885 | 9.93 760 | | | | | |
| 60 | 9.69 897 | 22 | 9.76 144 | 29 | 0.23 856 | 9.93 753 | | | | | |
| | | | | | | | | | | | |
| | L Cos | <i>d</i> | L Ctn | <i>c d</i> | L Tan | L Sin | <i>d</i> | Prop. Pts. | | | |

| ° | L Sin | | d | L Tan | | c d | L Ctn | | L Cos | | d | Prop. Pts. | | | |
|----|----------|--|----|----------|--|-----|----------|--|----------|--|---|------------|------------|-----------|-----------|
| | | | | | | | | | | | | | | | |
| 0 | 9.69 897 | | 22 | 9.76 144 | | 29 | 0.23 856 | | 9.93 753 | | 7 | 60 | | | |
| 1 | 9.69 919 | | 22 | 9.76 173 | | 29 | 0.23 827 | | 9.93 746 | | 7 | 59 | | | |
| 2 | 9.69 941 | | 22 | 9.76 202 | | 29 | 0.23 798 | | 9.93 738 | | 8 | 58 | | | |
| 3 | 9.69 963 | | 22 | 9.76 231 | | 29 | 0.23 769 | | 9.93 731 | | 7 | 57 | | | |
| 4 | 9.69 984 | | 21 | 9.76 261 | | 30 | 0.23 739 | | 9.93 724 | | 7 | 56 | | | |
| | | | 22 | | | 29 | | | | | 7 | | | | |
| 5 | 9.70 006 | | 22 | 9.76 290 | | 29 | 0.23 710 | | 9.93 717 | | 8 | 55 | 30 | 29 | 28 |
| 6 | 9.70 028 | | 22 | 9.76 319 | | 29 | 0.23 681 | | 9.93 709 | | 7 | 54 | 2 | 6.0 | 5.8 |
| 7 | 9.70 050 | | 22 | 9.76 348 | | 29 | 0.23 652 | | 9.93 702 | | 7 | 53 | 3 | 9.0 | 8.7 |
| 8 | 9.70 072 | | 22 | 9.76 377 | | 29 | 0.23 623 | | 9.93 695 | | 7 | 52 | 4 | 12.0 | 11.6 |
| 9 | 9.70 093 | | 21 | 9.76 406 | | 29 | 0.23 594 | | 9.93 687 | | 8 | 51 | 5 | 15.0 | 14.5 |
| | | | 22 | | | 29 | | | | | 7 | | 6 | 18.0 | 17.4 |
| 10 | 9.70 115 | | 22 | 9.76 435 | | 29 | 0.23 565 | | 9.93 680 | | 7 | 50 | 7 | 21.0 | 20.3 |
| 11 | 9.70 137 | | 22 | 9.76 464 | | 29 | 9.23 536 | | 9.93 673 | | 8 | 49 | 8 | 24.0 | 23.2 |
| 12 | 9.70 159 | | 22 | 9.76 493 | | 29 | 0.23 507 | | 9.93 665 | | 7 | 48 | 9 | 27.0 | 26.1 |
| 13 | 9.70 180 | | 21 | 9.76 522 | | 29 | 0.23 478 | | 9.93 658 | | 8 | 47 | | | |
| 14 | 9.70 202 | | 22 | 9.76 551 | | 29 | 0.23 449 | | 9.93 650 | | 7 | 46 | | | |
| | | | 22 | | | 29 | | | | | 7 | | | | |
| 15 | 9.70 224 | | 21 | 9.76 580 | | 29 | 0.23 420 | | 9.93 643 | | 8 | 45 | | | |
| 16 | 9.70 245 | | 22 | 9.76 609 | | 30 | 0.23 391 | | 9.93 636 | | 7 | 44 | | | |
| 17 | 9.70 267 | | 21 | 9.76 639 | | 29 | 0.23 361 | | 9.93 628 | | 8 | 43 | | | |
| 18 | 9.70 288 | | 22 | 9.76 668 | | 29 | 0.23 332 | | 9.93 621 | | 7 | 42 | 2 | 4.4 | 4.2 |
| 19 | 9.70 310 | | 22 | 9.76 697 | | 28 | 0.23 303 | | 9.93 614 | | 8 | 41 | 3 | 6.6 | 6.3 |
| | | | 22 | | | 29 | | | | | 7 | | 4 | 8.8 | 8.4 |
| 20 | 9.70 332 | | 21 | 9.76 725 | | 29 | 0.23 275 | | 9.93 606 | | 8 | 40 | 5 | 11.0 | 10.5 |
| 21 | 9.70 353 | | 22 | 9.76 754 | | 29 | 0.23 246 | | 9.93 599 | | 7 | 39 | 6 | 13.2 | 12.6 |
| 22 | 9.70 375 | | 22 | 9.76 783 | | 29 | 0.23 217 | | 9.93 591 | | 8 | 38 | 7 | 15.4 | 14.7 |
| 23 | 9.70 396 | | 22 | 9.76 812 | | 29 | 0.23 188 | | 9.93 584 | | 7 | 37 | 8 | 17.6 | 16.8 |
| 24 | 9.70 418 | | 21 | 9.76 841 | | 29 | 0.23 159 | | 9.93 577 | | 8 | 36 | 9 | 19.8 | 18.9 |
| | | | 22 | | | 29 | | | | | 7 | | | | |
| 25 | 9.70 439 | | 22 | 9.76 870 | | 29 | 0.23 130 | | 9.93 569 | | 8 | 35 | | | |
| 26 | 9.70 461 | | 21 | 9.76 899 | | 29 | 0.23 101 | | 9.93 562 | | 7 | 34 | | | |
| 27 | 9.70 482 | | 22 | 9.76 928 | | 29 | 0.23 072 | | 9.93 554 | | 8 | 33 | | | |
| 28 | 9.70 504 | | 22 | 9.76 957 | | 29 | 0.23 043 | | 9.93 547 | | 7 | 32 | | | |
| 29 | 9.70 525 | | 21 | 9.76 986 | | 29 | 0.23 014 | | 9.93 539 | | 8 | 31 | 2 | 1.6 | 1.4 |
| | | | 22 | | | 29 | | | | | 7 | | 3 | 2.4 | 2.1 |
| 30 | 9.70 547 | | 21 | 9.77 015 | | 29 | 0.22 985 | | 9.93 532 | | 8 | 30 | 4 | 3.2 | 2.8 |
| 31 | 9.70 568 | | 22 | 9.77 044 | | 29 | 0.22 956 | | 9.93 525 | | 7 | 29 | 5 | 4.0 | 3.5 |
| 32 | 9.70 590 | | 22 | 9.77 073 | | 28 | 0.22 927 | | 9.93 517 | | 8 | 28 | 6 | 4.8 | 4.2 |
| 33 | 9.70 611 | | 21 | 9.77 101 | | 29 | 0.22 899 | | 9.93 510 | | 7 | 27 | 7 | 5.6 | 4.9 |
| 34 | 9.70 633 | | 22 | 9.77 130 | | 29 | 0.22 870 | | 9.93 502 | | 8 | 26 | 8 | 6.4 | 5.6 |
| | | | 21 | | | 29 | | | | | 7 | | 9 | 7.2 | 6.3 |
| 35 | 9.70 654 | | 21 | 9.77 159 | | 29 | 0.22 841 | | 9.93 495 | | 8 | 25 | | | |
| 36 | 9.70 675 | | 22 | 9.77 188 | | 29 | 0.22 812 | | 9.93 487 | | 7 | 24 | | | |
| 37 | 9.70 697 | | 21 | 9.77 217 | | 29 | 0.22 783 | | 9.93 480 | | 8 | 23 | | | |
| 38 | 9.70 718 | | 22 | 9.77 246 | | 28 | 0.22 754 | | 9.93 472 | | 7 | 22 | | | |
| 39 | 9.70 739 | | 21 | 9.77 274 | | 29 | 0.22 726 | | 9.93 465 | | 8 | 21 | | | |
| | | | 22 | | | 29 | | | | | 7 | | | | |
| 40 | 9.70 761 | | 21 | 9.77 303 | | 29 | 0.22 697 | | 9.93 457 | | 8 | 20 | | | |
| 41 | 9.70 782 | | 21 | 9.77 332 | | 29 | 0.22 668 | | 9.93 450 | | 7 | 19 | | | |
| 42 | 9.70 803 | | 22 | 9.77 361 | | 29 | 0.22 639 | | 9.93 442 | | 8 | 18 | | | |
| 43 | 9.70 824 | | 22 | 9.77 390 | | 28 | 0.22 610 | | 9.93 435 | | 7 | 17 | | | |
| 44 | 9.70 846 | | 21 | 9.77 418 | | 29 | 0.22 582 | | 9.93 427 | | 8 | 16 | | | |
| 45 | 9.70 867 | | 21 | 9.77 447 | | 29 | 0.22 553 | | 9.93 420 | | 7 | 15 | | | |
| 46 | 9.70 888 | | 22 | 9.77 476 | | 29 | 0.22 524 | | 9.93 412 | | 8 | 14 | | | |
| 47 | 9.70 909 | | 22 | 9.77 505 | | 28 | 0.22 495 | | 9.93 405 | | 7 | 13 | | | |
| 48 | 9.70 931 | | 21 | 9.77 533 | | 29 | 0.22 467 | | 9.93 397 | | 8 | 12 | | | |
| 49 | 9.70 952 | | 21 | 9.77 562 | | 29 | 0.22 438 | | 9.93 390 | | 7 | 11 | | | |
| | | | 22 | | | 29 | | | | | 8 | | | | |
| 50 | 9.70 973 | | 21 | 9.77 591 | | 28 | 0.22 409 | | 9.93 382 | | 7 | 10 | | | |
| 51 | 9.70 994 | | 21 | 9.77 619 | | 29 | 0.22 381 | | 9.93 375 | | 8 | 9 | | | |
| 52 | 9.71 015 | | 21 | 9.77 648 | | 29 | 0.22 352 | | 9.93 367 | | 7 | 8 | | | |
| 53 | 9.71 036 | | 22 | 9.77 677 | | 29 | 0.22 323 | | 9.93 360 | | 8 | 7 | | | |
| 54 | 9.71 058 | | 21 | 9.77 706 | | 28 | 0.22 294 | | 9.93 352 | | 7 | 6 | | | |
| | | | 22 | | | 29 | | | | | 8 | | | | |
| 55 | 9.71 079 | | 21 | 9.77 734 | | 29 | 0.22 266 | | 9.93 344 | | 7 | 5 | | | |
| 56 | 9.71 100 | | 21 | 9.77 763 | | 28 | 0.22 237 | | 9.93 337 | | 8 | 4 | | | |
| 57 | 9.71 121 | | 21 | 9.77 791 | | 29 | 0.22 209 | | 9.93 329 | | 7 | 3 | | | |
| 58 | 9.71 142 | | 21 | 9.77 820 | | 29 | 0.22 180 | | 9.93 322 | | 8 | 2 | | | |
| 59 | 9.71 163 | | 21 | 9.77 849 | | 28 | 0.22 151 | | 9.93 314 | | 7 | 1 | | | |
| | | | 22 | | | 29 | | | | | 8 | | | | |
| 60 | 9.71 184 | | | 9.77 877 | | | 0.22 123 | | 9.93 307 | | | 0 | | | |
| | L Cos | | d | L Ctn | | c d | L Tan | | L Sin | | d | | Prop. Pts. | | |

From the top:

For 30°+ or 210°+,
read as printed; for
120°+ or 300°+, read
co-function.

From the bottom:

For 59°+ or 239°+,
read as printed; for
149°+ or 329°+, read
co-function.

| <i>i</i> | L Sin | <i>d</i> | L Tan | <i>c d</i> | L Ctn | L Cos | <i>d</i> | | Prop. Pts. | | | |
|-----------|----------|----------|----------|------------|----------|----------|----------|-----------|------------|--|--|--|
| 0 | 9.71 184 | | 9.77 877 | | 0.22 123 | 9.93 307 | | 60 | | | | |
| 1 | 9.71 205 | 21 | 9.77 906 | 29 | 0.22 094 | 9.93 299 | 8 | 59 | | | | |
| 2 | 9.71 226 | 21 | 9.77 935 | 29 | 0.22 065 | 9.93 291 | 8 | 58 | | | | |
| 3 | 9.71 247 | 21 | 9.77 963 | 28 | 0.22 037 | 9.93 284 | 7 | 57 | | | | |
| 4 | 9.71 268 | 21 | 9.77 992 | 29 | 0.22 008 | 9.93 276 | 8 | 56 | | | | |
| | | 21 | | 28 | | | 7 | | | | | |
| 5 | 9.71 289 | | 9.78 020 | | 0.21 980 | 9.93 269 | | 55 | | | | |
| 6 | 9.71 310 | 21 | 9.78 049 | 29 | 0.21 951 | 9.93 261 | 8 | 54 | | | | |
| 7 | 9.71 331 | 21 | 9.78 077 | 28 | 0.21 923 | 9.93 253 | 8 | 53 | | | | |
| 8 | 9.71 352 | 21 | 9.78 106 | 29 | 0.21 894 | 9.93 246 | 7 | 52 | | | | |
| 9 | 9.71 373 | 21 | 9.78 135 | 29 | 0.21 865 | 9.93 238 | 8 | 51 | | | | |
| | | 20 | | 28 | | | 8 | | | | | |
| 10 | 9.71 393 | | 9.78 163 | | 0.21 837 | 9.93 230 | | 50 | | | | |
| 11 | 9.71 414 | 21 | 9.78 192 | 29 | 0.21 808 | 9.93 223 | 7 | 49 | | | | |
| 12 | 9.71 435 | 21 | 9.78 220 | 28 | 0.21 780 | 9.93 215 | 8 | 48 | | | | |
| 13 | 9.71 456 | 21 | 9.78 249 | 29 | 0.21 751 | 9.93 207 | 8 | 47 | | | | |
| 14 | 9.71 477 | 21 | 9.78 277 | 28 | 0.21 723 | 9.93 200 | 7 | 46 | | | | |
| | | 21 | | 29 | | | 8 | | | | | |
| 15 | 9.71 498 | | 9.78 306 | | 0.21 694 | 9.93 192 | | 45 | | | | |
| 16 | 9.71 519 | 20 | 9.78 334 | 28 | 0.21 666 | 9.93 184 | 8 | 44 | | | | |
| 17 | 9.71 539 | 21 | 9.78 363 | 29 | 0.21 637 | 9.93 177 | 7 | 43 | | | | |
| 18 | 9.71 560 | 21 | 9.78 391 | 28 | 0.21 609 | 9.93 169 | 8 | 42 | | | | |
| 19 | 9.71 581 | 21 | 9.78 419 | 28 | 0.21 581 | 9.93 161 | 8 | 41 | | | | |
| | | 21 | | 29 | | | 7 | | | | | |
| 20 | 9.71 602 | | 9.78 448 | | 0.21 552 | 9.93 154 | | 40 | | | | |
| 21 | 9.71 622 | 20 | 9.78 476 | 28 | 0.21 524 | 9.93 146 | 8 | 39 | | | | |
| 22 | 9.71 643 | 21 | 9.78 505 | 29 | 0.21 495 | 9.93 138 | 8 | 38 | | | | |
| 23 | 9.71 664 | 21 | 9.78 533 | 28 | 0.21 467 | 9.93 131 | 7 | 37 | | | | |
| 24 | 9.71 685 | 21 | 9.78 562 | 29 | 0.21 438 | 9.93 123 | 8 | 36 | | | | |
| | | 20 | | 28 | | | 8 | | | | | |
| 25 | 9.71 705 | | 9.78 590 | | 0.21 410 | 9.93 115 | | 35 | | | | |
| 26 | 9.71 726 | 21 | 9.78 618 | 28 | 0.21 382 | 9.93 108 | 7 | 34 | | | | |
| 27 | 9.71 747 | 21 | 9.78 647 | 29 | 0.21 353 | 9.93 100 | 8 | 33 | | | | |
| 28 | 9.71 767 | 20 | 9.78 675 | 28 | 0.21 325 | 9.93 092 | 8 | 32 | | | | |
| 29 | 9.71 788 | 21 | 9.78 704 | 29 | 0.21 296 | 9.93 084 | 8 | 31 | | | | |
| | | 21 | | 28 | | | 7 | | | | | |
| 30 | 9.71 809 | | 9.78 732 | | 0.21 268 | 9.93 077 | | 30 | | | | |
| 31 | 9.71 829 | 20 | 9.78 760 | 28 | 0.21 240 | 9.93 069 | 8 | 29 | | | | |
| 32 | 9.71 850 | 21 | 9.78 789 | 29 | 0.21 211 | 9.93 061 | 8 | 28 | | | | |
| 33 | 9.71 870 | 20 | 9.78 817 | 28 | 0.21 183 | 9.93 053 | 8 | 27 | | | | |
| 34 | 9.71 891 | 21 | 9.78 845 | 28 | 0.21 155 | 9.93 046 | 7 | 26 | | | | |
| | | 20 | | 29 | | | 8 | | | | | |
| 35 | 9.71 911 | | 9.78 874 | | 0.21 126 | 9.93 038 | | 25 | | | | |
| 36 | 9.71 932 | 21 | 9.78 902 | 28 | 0.21 098 | 9.93 030 | 8 | 24 | | | | |
| 37 | 9.71 952 | 21 | 9.78 930 | 28 | 0.21 070 | 9.93 022 | 8 | 23 | | | | |
| 38 | 9.71 973 | 21 | 9.78 959 | 29 | 0.21 041 | 9.93 014 | 8 | 22 | | | | |
| 39 | 9.71 994 | 21 | 9.78 987 | 28 | 0.21 013 | 9.93 007 | 7 | 21 | | | | |
| | | 20 | | 28 | | | 8 | | | | | |
| 40 | 9.72 014 | | 9.79 015 | | 0.20 985 | 9.92 999 | | 20 | | | | |
| 41 | 9.72 034 | 20 | 9.79 043 | 28 | 0.20 957 | 9.92 991 | 8 | 19 | | | | |
| 42 | 9.72 055 | 21 | 9.79 072 | 29 | 0.20 928 | 9.92 983 | 8 | 18 | | | | |
| 43 | 9.72 075 | 20 | 9.79 100 | 28 | 0.20 900 | 9.92 976 | 7 | 17 | | | | |
| 44 | 9.72 096 | 21 | 9.79 128 | 28 | 0.20 872 | 9.92 968 | 8 | 16 | | | | |
| | | 20 | | 28 | | | 8 | | | | | |
| 45 | 9.72 116 | | 9.79 156 | | 0.20 844 | 9.92 960 | | 15 | | | | |
| 46 | 9.72 137 | 21 | 9.79 185 | 29 | 0.20 815 | 9.92 952 | 8 | 14 | | | | |
| 47 | 9.72 157 | 20 | 9.79 213 | 28 | 0.20 787 | 9.92 944 | 8 | 13 | | | | |
| 48 | 9.72 177 | 21 | 9.79 241 | 28 | 0.20 759 | 9.92 936 | 8 | 12 | | | | |
| 49 | 9.72 198 | 21 | 9.79 269 | 28 | 0.20 731 | 9.92 929 | 7 | 11 | | | | |
| | | 20 | | 28 | | | 8 | | | | | |
| 50 | 9.72 218 | | 9.79 297 | | 0.20 703 | 9.92 921 | | 10 | | | | |
| 51 | 9.72 238 | 21 | 9.79 326 | 29 | 0.20 674 | 9.92 913 | 8 | 9 | | | | |
| 52 | 9.72 259 | 21 | 9.79 354 | 28 | 0.20 646 | 9.92 905 | 8 | 8 | | | | |
| 53 | 9.72 279 | 20 | 9.79 382 | 28 | 0.20 618 | 9.92 897 | 8 | 7 | | | | |
| 54 | 9.72 299 | 21 | 9.79 410 | 28 | 0.20 590 | 9.92 889 | 8 | 6 | | | | |
| | | 21 | | 28 | | | 8 | | | | | |
| 55 | 9.72 320 | | 9.79 438 | | 0.20 562 | 9.92 881 | | 5 | | | | |
| 56 | 9.72 340 | 20 | 9.79 466 | 28 | 0.20 534 | 9.92 874 | 7 | 4 | | | | |
| 57 | 9.72 360 | 21 | 9.79 495 | 29 | 0.20 505 | 9.92 866 | 8 | 3 | | | | |
| 58 | 9.72 381 | 21 | 9.79 523 | 28 | 0.20 477 | 9.92 858 | 8 | 2 | | | | |
| 59 | 9.72 401 | 20 | 9.79 551 | 28 | 0.20 449 | 9.92 850 | 8 | 1 | | | | |
| | | 20 | | 28 | | | 8 | | | | | |
| 60 | 9.72 421 | | 9.79 579 | | 0.20 421 | 9.92 842 | | 0 | | | | |
| | L Cos | <i>d</i> | L Ctn | <i>c d</i> | L Tan | L Sin | <i>d</i> | | Prop. Pts. | | | |

| <i>l</i> | L Sin | <i>d</i> | L Tan | <i>c d</i> | L Ctn | L Cos | <i>d</i> | Prop. Pts. | | | |
|----------|----------|----------|------------|------------|----------|----------|----------|------------|--|--|--|
| 0 | 9.72 421 | | 9.79 579 | | 0.20 421 | 9.92 842 | | | | | |
| 1 | 9.72 441 | 20 | 9.79 607 | 28 | 0.20 393 | 9.92 834 | 8 | | | | |
| 2 | 9.72 461 | 20 | 9.79 635 | 28 | 0.20 365 | 9.92 826 | 8 | | | | |
| 3 | 9.72 482 | 21 | 9.79 663 | 28 | 0.20 337 | 9.92 818 | 8 | | | | |
| 4 | 9.72 502 | 20 | 9.79 691 | 28 | 0.20 309 | 9.92 810 | 8 | | | | |
| 5 | 9.72 522 | 20 | 9.79 719 | 28 | 0.20 281 | 9.92 803 | 7 | | | | |
| 6 | 9.72 542 | 20 | 9.79 747 | 28 | 0.20 253 | 9.92 795 | 8 | | | | |
| 7 | 9.72 562 | 20 | 9.79 776 | 29 | 0.20 224 | 9.92 787 | 8 | | | | |
| 8 | 9.72 582 | 20 | 9.79 804 | 28 | 0.20 196 | 9.92 779 | 8 | | | | |
| 9 | 9.72 602 | 20 | 9.79 832 | 28 | 0.20 168 | 9.92 771 | 8 | | | | |
| 10 | 9.72 622 | 21 | 9.79 860 | 28 | 0.20 140 | 9.92 763 | 8 | | | | |
| 11 | 9.72 643 | 20 | 9.79 888 | 28 | 0.20 112 | 9.92 755 | 8 | | | | |
| 12 | 9.72 663 | 20 | 9.79 916 | 28 | 0.20 084 | 9.92 747 | 8 | | | | |
| 13 | 9.72 683 | 20 | 9.79 944 | 28 | 0.20 056 | 9.92 739 | 8 | | | | |
| 14 | 9.72 703 | 20 | 9.79 972 | 28 | 0.20 028 | 9.92 731 | 8 | | | | |
| 15 | 9.72 723 | 20 | 9.80 000 | 28 | 0.20 000 | 9.92 723 | 8 | | | | |
| 16 | 9.72 743 | 20 | 9.80 028 | 28 | 0.19 972 | 9.92 715 | 8 | | | | |
| 17 | 9.72 763 | 20 | 9.80 056 | 28 | 0.19 944 | 9.92 707 | 8 | | | | |
| 18 | 9.72 783 | 20 | 9.80 084 | 28 | 0.19 916 | 9.92 699 | 8 | | | | |
| 19 | 9.72 803 | 20 | 9.80 112 | 28 | 0.19 888 | 9.92 691 | 8 | | | | |
| 20 | 9.72 823 | 20 | 9.80 140 | 28 | 0.19 860 | 9.92 683 | 8 | | | | |
| 21 | 9.72 843 | 20 | 9.80 168 | 28 | 0.19 832 | 9.92 675 | 8 | | | | |
| 22 | 9.72 863 | 20 | 9.80 195 | 27 | 0.19 805 | 9.92 667 | 8 | | | | |
| 23 | 9.72 883 | 20 | 9.80 223 | 28 | 0.19 777 | 9.92 659 | 8 | | | | |
| 24 | 9.72 902 | 19 | 9.80 251 | 28 | 0.19 749 | 9.92 651 | 8 | | | | |
| 25 | 9.72 922 | 20 | 9.80 279 | 28 | 0.19 721 | 9.92 643 | 8 | | | | |
| 26 | 9.72 942 | 20 | 9.80 307 | 28 | 0.19 693 | 9.92 635 | 8 | | | | |
| 27 | 9.72 962 | 20 | 9.80 335 | 28 | 0.19 665 | 9.92 627 | 8 | | | | |
| 28 | 9.72 982 | 20 | 9.80 363 | 28 | 0.19 637 | 9.92 619 | 8 | | | | |
| 29 | 9.73 002 | 20 | 9.80 391 | 28 | 0.19 609 | 9.92 611 | 8 | | | | |
| 30 | 9.73 022 | 19 | 9.80 419 | 28 | 0.19 581 | 9.92 603 | 8 | | | | |
| 31 | 9.73 041 | 20 | 9.80 447 | 27 | 0.19 553 | 9.92 595 | 8 | | | | |
| 32 | 9.73 061 | 20 | 9.80 474 | 28 | 0.19 526 | 9.92 587 | 8 | | | | |
| 33 | 9.73 081 | 20 | 9.80 502 | 28 | 0.19 498 | 9.92 579 | 8 | | | | |
| 34 | 9.73 101 | 20 | 9.80 530 | 28 | 0.19 470 | 9.92 571 | 8 | | | | |
| 35 | 9.73 121 | 19 | 9.80 558 | 28 | 0.19 442 | 9.92 563 | 8 | | | | |
| 36 | 9.73 140 | 20 | 9.80 586 | 28 | 0.19 414 | 9.92 555 | 8 | | | | |
| 37 | 9.73 160 | 20 | 9.80 614 | 28 | 0.19 386 | 9.92 546 | 9 | | | | |
| 38 | 9.73 180 | 20 | 9.80 642 | 27 | 0.19 358 | 9.92 538 | 8 | | | | |
| 39 | 9.73 200 | 19 | 9.80 669 | 28 | 0.19 331 | 9.92 530 | 8 | | | | |
| 40 | 9.73 219 | 20 | 9.80 697 | 28 | 0.19 303 | 9.92 522 | 8 | | | | |
| 41 | 9.73 239 | 20 | 9.80 725 | 28 | 0.19 275 | 9.92 514 | 8 | | | | |
| 42 | 9.73 259 | 19 | 9.80 753 | 28 | 0.19 247 | 9.92 506 | 8 | | | | |
| 43 | 9.73 278 | 20 | 9.80 781 | 27 | 0.19 219 | 9.92 498 | 8 | | | | |
| 44 | 9.73 298 | 20 | 9.80 808 | 28 | 0.19 192 | 9.92 490 | 8 | | | | |
| 45 | 9.73 318 | 19 | 9.80 836 | 28 | 0.19 164 | 9.92 482 | 9 | | | | |
| 46 | 9.73 337 | 20 | 9.80 864 | 28 | 0.19 136 | 9.92 473 | 8 | | | | |
| 47 | 9.73 357 | 20 | 9.80 892 | 27 | 0.19 108 | 9.92 465 | 8 | | | | |
| 48 | 9.73 377 | 19 | 9.80 919 | 28 | 0.19 081 | 9.92 457 | 8 | | | | |
| 49 | 9.73 396 | 20 | 9.80 947 | 28 | 0.19 053 | 9.92 449 | 8 | | | | |
| 50 | 9.73 416 | 19 | 9.80 975 | 28 | 0.19 025 | 9.92 441 | 8 | | | | |
| 51 | 9.73 435 | 20 | 9.81 003 | 27 | 0.18 997 | 9.92 433 | 8 | | | | |
| 52 | 9.73 455 | 19 | 9.81 030 | 28 | 0.18 970 | 9.92 425 | 9 | | | | |
| 53 | 9.73 474 | 20 | 9.81 058 | 28 | 0.18 942 | 9.92 416 | 8 | | | | |
| 54 | 9.73 494 | 19 | 9.81 086 | 27 | 0.18 914 | 9.92 408 | 8 | | | | |
| 55 | 9.73 513 | 20 | 9.81 113 | 28 | 0.18 887 | 9.92 400 | 8 | | | | |
| 56 | 9.73 533 | 19 | 9.81 141 | 28 | 0.18 859 | 9.92 392 | 8 | | | | |
| 57 | 9.73 552 | 20 | 9.81 169 | 27 | 0.18 831 | 9.92 384 | 8 | | | | |
| 58 | 9.73 572 | 19 | 9.81 196 | 28 | 0.18 804 | 9.92 376 | 9 | | | | |
| 59 | 9.73 591 | 20 | 9.81 224 | 28 | 0.18 776 | 9.92 367 | 8 | | | | |
| 60 | 9.73 611 | | 9.81 252 | | 0.18 748 | 9.92 359 | | | | | |
| L Cos | <i>d</i> | L Ctn | <i>c d</i> | L Tan | L Sin | <i>d</i> | <i>l</i> | Prop. Pts. | | | |

| | 29 | 28 | 27 |
|---|------|------|------|
| 2 | 5.8 | 5.6 | 5.4 |
| 3 | 8.7 | 8.4 | 8.1 |
| 4 | 11.6 | 11.2 | 10.8 |
| 5 | 14.5 | 14.0 | 13.5 |
| 6 | 17.4 | 16.8 | 16.2 |
| 7 | 20.3 | 19.6 | 18.9 |
| 8 | 23.2 | 22.4 | 21.6 |
| 9 | 26.1 | 25.2 | 24.3 |

| | 21 | 20 | 19 |
|---|------|------|------|
| 2 | 4.2 | 4.0 | 3.8 |
| 3 | 6.3 | 6.0 | 5.7 |
| 4 | 8.4 | 8.0 | 7.6 |
| 5 | 10.5 | 10.0 | 9.5 |
| 6 | 12.6 | 12.0 | 11.4 |
| 7 | 14.7 | 14.0 | 13.3 |
| 8 | 16.8 | 16.0 | 15.2 |
| 9 | 18.9 | 18.0 | 17.1 |

| | 9 | 8 | 7 |
|---|-----|-----|-----|
| 2 | 1.8 | 1.6 | 1.4 |
| 3 | 2.7 | 2.4 | 2.1 |
| 4 | 3.6 | 3.2 | 2.8 |
| 5 | 4.5 | 4.0 | 3.5 |
| 6 | 5.4 | 4.8 | 4.2 |
| 7 | 6.3 | 5.6 | 4.9 |
| 8 | 7.2 | 6.4 | 5.6 |
| 9 | 8.1 | 7.2 | 6.3 |

From the top :

For 32°+ or 212°+,
read as printed; for
122°+ or 302°+, read
co-function.

From the bottom :

For 57°+ or 237°+,
read as printed; for
147°+ or 327°+, read
co-function.

| <i>l</i> | L Sin | <i>d</i> | L Tan | <i>c d</i> | L Ctn | L Cos | <i>d</i> | | Prop. Pts. |
|-----------|----------|----------|----------|------------|----------|----------|----------|-----------|-------------------------------|
| 0 | 9.73 611 | 19 | 9.81 252 | 27 | 0.18 748 | 9.92 359 | 8 | 60 | |
| 1 | 9.73 630 | 19 | 9.81 279 | 27 | 0.18 721 | 9.92 351 | 8 | 59 | |
| 2 | 9.73 650 | 20 | 9.81 307 | 28 | 0.18 693 | 9.92 343 | 8 | 58 | |
| 3 | 9.73 669 | 19 | 9.81 335 | 28 | 0.18 665 | 9.92 335 | 8 | 57 | |
| 4 | 9.73 689 | 20 | 9.81 362 | 27 | 0.18 638 | 9.92 326 | 9 | 56 | |
| | | 19 | | 28 | | | 8 | | |
| 5 | 9.73 708 | 19 | 9.81 390 | 28 | 0.18 610 | 9.92 318 | 8 | 55 | 28 27 20 |
| 6 | 9.73 727 | 19 | 9.81 418 | 27 | 0.18 582 | 9.92 310 | 8 | 54 | 2 5.6 5.4 4.0 |
| 7 | 9.73 747 | 20 | 9.81 445 | 27 | 0.18 555 | 9.92 302 | 8 | 53 | 3 8.4 8.1 6.0 |
| 8 | 9.73 766 | 19 | 9.81 473 | 28 | 0.18 527 | 9.92 293 | 9 | 52 | 4 11.2 10.8 8.0 |
| 9 | 9.73 785 | 19 | 9.81 500 | 27 | 0.18 500 | 9.92 285 | 8 | 51 | 5 14.0 13.5 10.0 |
| | | 20 | | 28 | | | 8 | | 6 16.8 16.2 12.0 |
| 10 | 9.73 805 | 19 | 9.81 528 | 28 | 0.18 472 | 9.92 277 | 8 | 50 | 7 19.6 18.9 14.0 |
| 11 | 9.73 824 | 19 | 9.81 556 | 27 | 0.18 444 | 9.92 269 | 8 | 49 | 8 22.4 21.6 16.0 |
| 12 | 9.73 843 | 20 | 9.81 583 | 28 | 0.18 417 | 9.92 260 | 9 | 48 | 9 25.2 24.3 18.0 |
| 13 | 9.73 863 | 19 | 9.81 611 | 27 | 0.18 389 | 9.92 252 | 8 | 47 | |
| 14 | 9.73 882 | 19 | 9.81 638 | 27 | 0.18 362 | 9.92 244 | 8 | 46 | |
| | | 20 | | 28 | | | 9 | | |
| 15 | 9.73 901 | 19 | 9.81 666 | 27 | 0.18 334 | 9.92 235 | 8 | 45 | |
| 16 | 9.73 921 | 20 | 9.81 693 | 27 | 0.18 307 | 9.92 227 | 8 | 44 | 19 18 |
| 17 | 9.73 940 | 19 | 9.81 721 | 28 | 0.18 279 | 9.92 219 | 8 | 43 | 2 3.8 3.6 |
| 18 | 9.73 959 | 19 | 9.81 748 | 27 | 0.18 252 | 9.92 211 | 8 | 42 | 3 5.7 5.4 |
| 19 | 9.73 978 | 19 | 9.81 776 | 28 | 0.18 224 | 9.92 202 | 9 | 41 | 4 7.6 7.2 |
| | | 20 | | 27 | | | 8 | | 5 9.5 9.0 |
| 20 | 9.73 997 | 19 | 9.81 803 | 28 | 0.18 197 | 9.92 194 | 8 | 40 | 6 11.4 10.8 |
| 21 | 9.74 017 | 20 | 9.81 831 | 27 | 0.18 169 | 9.92 186 | 8 | 39 | 7 13.3 12.6 |
| 22 | 9.74 036 | 19 | 9.81 858 | 28 | 0.18 142 | 9.92 177 | 9 | 38 | 8 15.2 14.4 |
| 23 | 9.74 055 | 19 | 9.81 886 | 27 | 0.18 114 | 9.92 169 | 8 | 37 | 9 17.1 16.2 |
| 24 | 9.74 074 | 19 | 9.81 913 | 28 | 0.18 087 | 9.92 161 | 9 | 36 | |
| | | 20 | | 27 | | | 8 | | |
| 25 | 9.74 093 | 19 | 9.81 941 | 28 | 0.18 059 | 9.92 152 | 8 | 35 | |
| 26 | 9.74 113 | 20 | 9.81 968 | 27 | 0.18 032 | 9.92 144 | 8 | 34 | |
| 27 | 9.74 132 | 19 | 9.81 996 | 28 | 0.18 004 | 9.92 136 | 9 | 33 | |
| 28 | 9.74 151 | 19 | 9.82 023 | 27 | 0.17 977 | 9.92 127 | 8 | 32 | 9 8 |
| 29 | 9.74 170 | 19 | 9.82 051 | 28 | 0.17 949 | 9.92 119 | 8 | 31 | 2 1.8 1.6 |
| | | 20 | | 27 | | | 9 | | 3 2.7 2.4 |
| 30 | 9.74 189 | 19 | 9.82 078 | 28 | 0.17 922 | 9.92 111 | 8 | 30 | 4 3.6 3.2 |
| 31 | 9.74 208 | 19 | 9.82 106 | 27 | 0.17 894 | 9.92 102 | 9 | 29 | 5 4.5 4.0 |
| 32 | 9.74 227 | 19 | 9.82 133 | 28 | 0.17 867 | 9.92 094 | 8 | 28 | 6 5.4 4.8 |
| 33 | 9.74 246 | 19 | 9.82 161 | 27 | 0.17 839 | 9.92 086 | 9 | 27 | 7 6.3 5.6 |
| 34 | 9.74 265 | 19 | 9.82 188 | 28 | 0.17 812 | 9.92 077 | 8 | 26 | 8 7.2 6.4 |
| | | 20 | | 27 | | | 9 | | 9 8.1 7.2 |
| 35 | 9.74 284 | 19 | 9.82 215 | 28 | 0.17 785 | 9.92 069 | 8 | 25 | |
| 36 | 9.74 303 | 19 | 9.82 243 | 27 | 0.17 757 | 9.92 060 | 8 | 24 | |
| 37 | 9.74 322 | 19 | 9.82 270 | 28 | 0.17 730 | 9.92 052 | 9 | 23 | |
| 38 | 9.74 341 | 19 | 9.82 298 | 27 | 0.17 702 | 9.92 044 | 8 | 22 | |
| 39 | 9.74 360 | 19 | 9.82 325 | 28 | 0.17 675 | 9.92 035 | 9 | 21 | |
| | | 20 | | 27 | | | 8 | | |
| 40 | 9.74 379 | 19 | 9.82 352 | 28 | 0.17 648 | 9.92 027 | 9 | 20 | |
| 41 | 9.74 398 | 19 | 9.82 380 | 27 | 0.17 620 | 9.92 018 | 8 | 19 | |
| 42 | 9.74 417 | 19 | 9.82 407 | 28 | 0.17 593 | 9.92 010 | 8 | 18 | |
| 43 | 9.74 436 | 19 | 9.82 435 | 27 | 0.17 565 | 9.92 002 | 9 | 17 | |
| 44 | 9.74 455 | 19 | 9.82 462 | 28 | 0.17 538 | 9.91 993 | 8 | 16 | |
| | | 20 | | 27 | | | 9 | | |
| 45 | 9.74 474 | 19 | 9.82 489 | 28 | 0.17 511 | 9.91 985 | 8 | 15 | |
| 46 | 9.74 493 | 19 | 9.82 517 | 27 | 0.17 483 | 9.91 976 | 9 | 14 | |
| 47 | 9.74 512 | 19 | 9.82 544 | 28 | 0.17 456 | 9.91 968 | 8 | 13 | |
| 48 | 9.74 531 | 19 | 9.82 571 | 27 | 0.17 429 | 9.91 959 | 9 | 12 | |
| 49 | 9.74 549 | 18 | 9.82 599 | 28 | 0.17 401 | 9.91 951 | 8 | 11 | |
| | | 19 | | 27 | | | 9 | | |
| 50 | 9.74 568 | 19 | 9.82 626 | 27 | 0.17 374 | 9.91 942 | 8 | 10 | |
| 51 | 9.74 587 | 19 | 9.82 653 | 28 | 0.17 347 | 9.91 934 | 9 | 9 | |
| 52 | 9.74 606 | 19 | 9.82 681 | 27 | 0.17 319 | 9.91 925 | 8 | 8 | |
| 53 | 9.74 625 | 19 | 9.82 708 | 28 | 0.17 292 | 9.91 917 | 9 | 7 | |
| 54 | 9.74 644 | 18 | 9.82 735 | 27 | 0.17 265 | 9.91 908 | 8 | 6 | |
| | | 19 | | 28 | | | 9 | | |
| 55 | 9.74 662 | 19 | 9.82 762 | 27 | 0.17 238 | 9.91 900 | 8 | 5 | |
| 56 | 9.74 681 | 19 | 9.82 790 | 28 | 0.17 210 | 9.91 891 | 9 | 4 | |
| 57 | 9.74 700 | 19 | 9.82 817 | 27 | 0.17 183 | 9.91 883 | 8 | 3 | |
| 58 | 9.74 719 | 18 | 9.82 844 | 28 | 0.17 156 | 9.91 874 | 9 | 2 | |
| 59 | 9.74 737 | 19 | 9.82 871 | 27 | 0.17 129 | 9.91 866 | 8 | 1 | |
| | | 20 | | 28 | | | 9 | | |
| 60 | 9.74 756 | | 9.82 899 | | 0.17 101 | 9.91 857 | | 0 | |
| | L Cos | <i>d</i> | L Ctn | <i>c d</i> | L Tan | L Sin | <i>d</i> | <i>l</i> | Prop. Pts. |

From the top :

For $33^{\circ+}$ or $213^{\circ+}$,
read as printed; for
 $123^{\circ+}$ or $303^{\circ+}$, read
co-function.

From the bottom :

For $56^{\circ+}$ or $236^{\circ+}$,
read as printed; for
 $146^{\circ+}$ or $326^{\circ+}$, read
co-function.

| <i>i</i> | L Sin | <i>d</i> | L Tan | <i>c d</i> | L Ctn | L Cos | <i>d</i> | Prop. Pts. |
|-----------|--------------|----------|--------------|------------|--------------|--------------|-----------|-------------------------------|
| 0 | 9.74 756 | | 9.82 899 | | 0.17 101 | 9.91 857 | 60 | |
| 1 | 9.74 775 | 19 | 9.82 926 | 27 | 0.17 074 | 9.91 849 | 59 | |
| 2 | 9.74 794 | 19 | 9.82 953 | 27 | 0.17 047 | 9.91 840 | 58 | |
| 3 | 9.74 812 | 18 | 9.82 980 | 27 | 0.17 020 | 9.91 832 | 57 | |
| 4 | 9.74 831 | 19 | 9.83 008 | 28 | 0.16 992 | 9.91 823 | 56 | |
| 5 | 9.74 850 | 18 | 9.83 035 | 27 | 0.16 965 | 9.91 815 | 55 | 28 27 26 |
| 6 | 9.74 868 | 19 | 9.83 062 | 27 | 0.16 938 | 9.91 806 | 54 | 2 5.6 5.4 5.2 |
| 7 | 9.74 887 | 19 | 9.83 089 | 27 | 0.16 911 | 9.91 798 | 53 | 3 8.4 8.1 7.8 |
| 8 | 9.74 906 | 18 | 9.83 117 | 28 | 0.16 883 | 9.91 789 | 52 | 4 11.2 10.8 10.4 |
| 9 | 9.74 924 | 19 | 9.83 144 | 27 | 0.16 856 | 9.91 781 | 51 | 5 14.0 13.5 13.0 |
| 10 | 9.74 943 | 18 | 9.83 171 | 27 | 0.16 829 | 9.91 772 | 50 | 6 16.8 16.2 15.6 |
| 11 | 9.74 961 | 19 | 9.83 198 | 27 | 0.16 802 | 9.91 763 | 49 | 7 19.6 18.9 18.2 |
| 12 | 9.74 980 | 19 | 9.83 225 | 27 | 0.16 775 | 9.91 755 | 48 | 8 22.4 21.6 20.8 |
| 13 | 9.74 999 | 18 | 9.83 252 | 28 | 0.16 748 | 9.91 746 | 47 | 9 25.2 24.3 23.4 |
| 14 | 9.75 017 | 19 | 9.83 280 | 27 | 0.16 720 | 9.91 738 | 46 | |
| 15 | 9.75 036 | 18 | 9.83 307 | 27 | 0.16 693 | 9.91 729 | 45 | |
| 16 | 9.75 054 | 19 | 9.83 334 | 27 | 0.16 666 | 9.91 720 | 44 | 19 18 |
| 17 | 9.75 073 | 19 | 9.83 361 | 27 | 0.16 639 | 9.91 712 | 43 | |
| 18 | 9.75 091 | 18 | 9.83 388 | 27 | 0.16 612 | 9.91 703 | 42 | 2 3.8 3.6 |
| 19 | 9.75 110 | 18 | 9.83 415 | 27 | 0.16 585 | 9.91 695 | 41 | 3 5.7 5.4 |
| 20 | 9.75 128 | 19 | 9.83 442 | 28 | 0.16 558 | 9.91 686 | 40 | 4 7.6 7.2 |
| 21 | 9.75 147 | 19 | 9.83 470 | 27 | 0.16 530 | 9.91 677 | 39 | 5 9.5 9.0 |
| 22 | 9.75 165 | 18 | 9.83 497 | 27 | 0.16 503 | 9.91 669 | 38 | 6 11.4 10.8 |
| 23 | 9.75 184 | 19 | 9.83 524 | 27 | 0.16 476 | 9.91 660 | 37 | 7 13.3 12.6 |
| 24 | 9.75 202 | 18 | 9.83 551 | 27 | 0.16 449 | 9.91 651 | 36 | 8 15.2 14.4 |
| 25 | 9.75 221 | 19 | 9.83 578 | 27 | 0.16 422 | 9.91 643 | 35 | 9 17.1 16.2 |
| 26 | 9.75 239 | 18 | 9.83 605 | 27 | 0.16 395 | 9.91 634 | 34 | |
| 27 | 9.75 258 | 19 | 9.83 632 | 27 | 0.16 368 | 9.91 625 | 33 | |
| 28 | 9.75 276 | 18 | 9.83 659 | 27 | 0.16 341 | 9.91 617 | 32 | 9 8 |
| 29 | 9.75 294 | 19 | 9.83 686 | 27 | 0.16 314 | 9.91 608 | 31 | 2 1.8 1.6 |
| 30 | 9.75 313 | 18 | 9.83 713 | 27 | 0.16 287 | 9.91 599 | 30 | 3 2.7 2.4 |
| 31 | 9.75 331 | 19 | 9.83 740 | 27 | 0.16 260 | 9.91 591 | 29 | 4 3.6 3.2 |
| 32 | 9.75 350 | 18 | 9.83 768 | 28 | 0.16 232 | 9.91 582 | 28 | 5 4.5 4.0 |
| 33 | 9.75 368 | 19 | 9.83 795 | 27 | 0.16 205 | 9.91 573 | 27 | 6 5.4 4.8 |
| 34 | 9.75 386 | 18 | 9.83 822 | 27 | 0.16 178 | 9.91 565 | 26 | 7 6.3 5.6 |
| 35 | 9.75 405 | 19 | 9.83 849 | 27 | 0.16 151 | 9.91 556 | 25 | 8 7.2 6.4 |
| 36 | 9.75 423 | 18 | 9.83 876 | 27 | 0.16 124 | 9.91 547 | 24 | 9 8.1 7.2 |
| 37 | 9.75 441 | 19 | 9.83 903 | 27 | 0.16 097 | 9.91 538 | 23 | |
| 38 | 9.75 459 | 18 | 9.83 930 | 27 | 0.16 070 | 9.91 530 | 22 | |
| 39 | 9.75 478 | 19 | 9.83 957 | 27 | 0.16 043 | 9.91 521 | 21 | |
| 40 | 9.75 496 | 18 | 9.83 984 | 27 | 0.16 016 | 9.91 512 | 20 | |
| 41 | 9.75 514 | 19 | 9.84 011 | 27 | 0.15 989 | 9.91 504 | 19 | <i>From the top:</i> |
| 42 | 9.75 533 | 18 | 9.84 038 | 27 | 0.15 962 | 9.91 495 | 18 | |
| 43 | 9.75 551 | 19 | 9.84 065 | 27 | 0.15 935 | 9.91 486 | 17 | For 34°+ or 214°+, |
| 44 | 9.75 569 | 18 | 9.84 092 | 27 | 0.15 908 | 9.91 477 | 16 | read as printed; for |
| 45 | 9.75 587 | 19 | 9.84 119 | 27 | 0.15 881 | 9.91 469 | 15 | 124°+ or 304°+, read |
| 46 | 9.75 605 | 18 | 9.84 146 | 27 | 0.15 854 | 9.91 460 | 14 | co-function. |
| 47 | 9.75 624 | 19 | 9.84 173 | 27 | 0.15 827 | 9.91 451 | 13 | |
| 48 | 9.75 642 | 18 | 9.84 200 | 27 | 0.15 800 | 9.91 442 | 12 | |
| 49 | 9.75 660 | 19 | 9.84 227 | 27 | 0.15 773 | 9.91 433 | 11 | <i>From the bottom:</i> |
| 50 | 9.75 678 | 18 | 9.84 254 | 26 | 0.15 746 | 9.91 425 | 10 | |
| 51 | 9.75 696 | 19 | 9.84 280 | 27 | 0.15 720 | 9.91 416 | 9 | For 55°+ or 235°+, |
| 52 | 9.75 714 | 18 | 9.84 307 | 27 | 0.15 693 | 9.91 407 | 8 | read as printed; for |
| 53 | 9.75 733 | 19 | 9.84 334 | 27 | 0.15 666 | 9.91 398 | 7 | 145°+ or 325°+, read |
| 54 | 9.75 751 | 18 | 9.84 361 | 27 | 0.15 639 | 9.91 389 | 6 | co-function. |
| 55 | 9.75 769 | 19 | 9.84 388 | 27 | 0.15 612 | 9.91 381 | 5 | |
| 56 | 9.75 787 | 18 | 9.84 415 | 27 | 0.15 585 | 9.91 372 | 4 | |
| 57 | 9.75 805 | 19 | 9.84 442 | 27 | 0.15 558 | 9.91 363 | 3 | |
| 58 | 9.75 823 | 18 | 9.84 469 | 27 | 0.15 531 | 9.91 354 | 2 | |
| 59 | 9.75 841 | 19 | 9.84 496 | 27 | 0.15 504 | 9.91 345 | 1 | |
| 60 | 9.75 859 | 18 | 9.84 523 | 27 | 0.15 477 | 9.91 336 | 0 | |
| | L Cos | <i>d</i> | L Ctn | <i>c d</i> | L Tan | L Sin | <i>d</i> | Prop. Pts. |

55°—Logarithms of Trigonometric Functions

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | d | | Prop. Pts. |
|----|----------|----|----------|-----|----------|----------|----|----|----------------------|
| 0 | 9.75 859 | | 9.84 523 | | 0.15 477 | 9.91 336 | | 60 | |
| 1 | 9.75 877 | 18 | 9.84 550 | 27 | 0.15 450 | 9.91 328 | 8 | 59 | |
| 2 | 9.75 895 | 18 | 9.84 576 | 26 | 0.15 424 | 9.91 319 | 9 | 58 | |
| 3 | 9.75 913 | 18 | 9.84 603 | 27 | 0.15 397 | 9.91 310 | 9 | 57 | |
| 4 | 9.75 931 | 18 | 9.84 630 | 27 | 0.15 370 | 9.91 301 | 9 | 56 | |
| 5 | 9.75 949 | 18 | 9.84 657 | 27 | 0.15 343 | 9.91 292 | 9 | 55 | 27 26 18 |
| 6 | 9.75 967 | 18 | 9.84 684 | 27 | 0.15 316 | 9.91 283 | 9 | 54 | 2 5.4 5.2 3.6 |
| 7 | 9.75 985 | 18 | 9.84 711 | 27 | 0.15 289 | 9.91 274 | 9 | 53 | 3 8.1 7.8 5.4 |
| 8 | 9.76 003 | 18 | 9.84 738 | 27 | 0.15 262 | 9.91 266 | 8 | 52 | 4 10.8 10.4 7.2 |
| 9 | 9.76 021 | 18 | 9.84 764 | 26 | 0.15 236 | 9.91 257 | 9 | 51 | 5 13.5 13.0 9.0 |
| 10 | 9.76 039 | 18 | 9.84 791 | 27 | 0.15 209 | 9.91 248 | 9 | 50 | 6 16.2 15.6 10.8 |
| 11 | 9.76 057 | 18 | 9.84 818 | 27 | 0.15 182 | 9.91 239 | 9 | 49 | 7 18.9 18.2 12.6 |
| 12 | 9.76 075 | 18 | 9.84 845 | 27 | 0.15 155 | 9.91 230 | 9 | 48 | 8 21.6 20.8 14.4 |
| 13 | 9.76 093 | 18 | 9.84 872 | 27 | 0.15 128 | 9.91 221 | 9 | 47 | 9 24.3 23.4 16.2 |
| 14 | 9.76 111 | 18 | 9.84 899 | 27 | 0.15 101 | 9.91 212 | 9 | 46 | |
| 15 | 9.76 129 | 18 | 9.84 925 | 26 | 0.15 075 | 9.91 203 | 9 | 45 | |
| 16 | 9.76 146 | 17 | 9.84 952 | 27 | 0.15 048 | 9.91 194 | 9 | 44 | 17 10 |
| 17 | 9.76 164 | 18 | 9.84 979 | 27 | 0.15 021 | 9.91 185 | 9 | 43 | 2 3.4 2.0 |
| 18 | 9.76 182 | 18 | 9.85 006 | 27 | 0.14 994 | 9.91 176 | 9 | 42 | 3 5.1 3.0 |
| 19 | 9.76 200 | 18 | 9.85 033 | 27 | 0.14 967 | 9.91 167 | 9 | 41 | 4 6.8 4.0 |
| 20 | 9.76 218 | 18 | 9.85 059 | 26 | 0.14 941 | 9.91 158 | 9 | 40 | 5 8.5 5.0 |
| 21 | 9.76 236 | 17 | 9.85 086 | 27 | 0.14 914 | 9.91 149 | 9 | 39 | 6 10.2 6.0 |
| 22 | 9.76 253 | 18 | 9.85 113 | 27 | 0.14 887 | 9.91 141 | 8 | 38 | 7 11.9 7.0 |
| 23 | 9.76 271 | 18 | 9.85 140 | 27 | 0.14 860 | 9.91 132 | 9 | 37 | 8 13.6 8.0 |
| 24 | 9.76 289 | 18 | 9.85 166 | 26 | 0.14 834 | 9.91 123 | 9 | 36 | 9 15.3 9.0 |
| 25 | 9.76 307 | 18 | 9.85 193 | 27 | 0.14 807 | 9.91 114 | 9 | 35 | |
| 26 | 9.76 324 | 17 | 9.85 220 | 27 | 0.14 780 | 9.91 105 | 9 | 34 | |
| 27 | 9.76 342 | 18 | 9.85 247 | 27 | 0.14 753 | 9.91 096 | 9 | 33 | |
| 28 | 9.76 360 | 18 | 9.85 273 | 26 | 0.14 727 | 9.91 087 | 9 | 32 | 9 8 |
| 29 | 9.76 378 | 18 | 9.85 300 | 27 | 0.14 700 | 9.91 078 | 9 | 31 | 2 1.8 1.6 |
| 30 | 9.76 395 | 17 | 9.85 327 | 27 | 0.14 673 | 9.91 069 | 9 | 30 | 3 2.7 2.4 |
| 31 | 9.76 413 | 18 | 9.85 354 | 27 | 0.14 646 | 9.91 060 | 9 | 29 | 4 3.6 3.2 |
| 32 | 9.76 431 | 18 | 9.85 380 | 26 | 0.14 620 | 9.91 051 | 9 | 28 | 5 4.5 4.0 |
| 33 | 9.76 448 | 17 | 9.85 407 | 27 | 0.14 593 | 9.91 042 | 9 | 27 | 6 5.4 4.8 |
| 34 | 9.76 466 | 18 | 9.85 434 | 27 | 0.14 566 | 9.91 033 | 9 | 26 | 7 6.3 5.6 |
| 35 | 9.76 484 | 18 | 9.85 460 | 26 | 0.14 540 | 9.91 023 | 10 | 25 | 8 7.2 6.4 |
| 36 | 9.76 501 | 17 | 9.85 487 | 27 | 0.14 513 | 9.91 014 | 9 | 24 | 9 8.1 7.2 |
| 37 | 9.76 519 | 18 | 9.85 514 | 27 | 0.14 486 | 9.91 005 | 9 | 23 | |
| 38 | 9.76 537 | 18 | 9.85 540 | 26 | 0.14 460 | 9.90 996 | 9 | 22 | |
| 39 | 9.76 554 | 17 | 9.85 567 | 27 | 0.14 433 | 9.90 987 | 9 | 21 | |
| 40 | 9.76 572 | 18 | 9.85 594 | 27 | 0.14 406 | 9.90 978 | 9 | 20 | |
| 41 | 9.76 590 | 18 | 9.85 620 | 26 | 0.14 380 | 9.90 969 | 9 | 19 | |
| 42 | 9.76 607 | 17 | 9.85 647 | 27 | 0.14 353 | 9.90 960 | 9 | 18 | |
| 43 | 9.76 625 | 18 | 9.85 674 | 27 | 0.14 326 | 9.90 951 | 9 | 17 | From the top: |
| 44 | 9.76 642 | 17 | 9.85 700 | 26 | 0.14 300 | 9.90 942 | 9 | 16 | For 35°+ or 215°+, |
| 45 | 9.76 660 | 18 | 9.85 727 | 27 | 0.14 273 | 9.90 933 | 9 | 15 | read as printed; for |
| 46 | 9.76 677 | 17 | 9.85 754 | 27 | 0.14 246 | 9.90 924 | 9 | 14 | 125°+ or 305°+, read |
| 47 | 9.76 695 | 18 | 9.85 780 | 26 | 0.14 220 | 9.90 915 | 9 | 13 | co-function. |
| 48 | 9.76 712 | 17 | 9.85 807 | 27 | 0.14 193 | 9.90 906 | 9 | 12 | |
| 49 | 9.76 730 | 18 | 9.85 834 | 27 | 0.14 166 | 9.90 896 | 10 | 11 | |
| 50 | 9.76 747 | 17 | 9.85 860 | 26 | 0.14 140 | 9.90 887 | 9 | 10 | From the bottom: |
| 51 | 9.76 765 | 18 | 9.85 887 | 27 | 0.14 113 | 9.90 878 | 9 | 9 | For 54°+ or 234°+, |
| 52 | 9.76 782 | 17 | 9.85 913 | 26 | 0.14 087 | 9.90 869 | 9 | 8 | read as printed; for |
| 53 | 9.76 800 | 18 | 9.85 940 | 27 | 0.14 060 | 9.90 860 | 9 | 7 | 144°+ or 324°+, read |
| 54 | 9.76 817 | 17 | 9.85 967 | 27 | 0.14 033 | 9.90 851 | 9 | 6 | co-function. |
| 55 | 9.76 835 | 18 | 9.85 993 | 26 | 0.14 007 | 9.90 842 | 9 | 5 | |
| 56 | 9.76 852 | 17 | 9.86 020 | 27 | 0.13 980 | 9.90 832 | 10 | 4 | |
| 57 | 9.76 870 | 18 | 9.86 046 | 26 | 0.13 954 | 9.90 823 | 9 | 3 | |
| 58 | 9.76 887 | 17 | 9.86 073 | 27 | 0.13 927 | 9.90 814 | 9 | 2 | |
| 59 | 9.76 904 | 18 | 9.86 100 | 27 | 0.13 900 | 9.90 805 | 9 | 1 | |
| 60 | 9.76 922 | 17 | 9.86 126 | 26 | 0.13 874 | 9.90 796 | 9 | 0 | |
| ' | L Cos | d | L Ctn | c d | L Tan | L Sin | d | ' | Prop. Pts. |

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | d | | Prop. Pts. |
|----|----------|----|----------|-----|----------|----------|----|----|---------------------------|
| 0 | 9.76 922 | | 9.86 126 | | 0.13 874 | 9.90 796 | | 60 | |
| 1 | 9.76 939 | 17 | 9.86 153 | 27 | 0.13 847 | 9.90 787 | 9 | 59 | |
| 2 | 9.76 957 | 18 | 9.86 179 | 26 | 0.13 821 | 9.90 777 | 10 | 58 | |
| 3 | 9.76 974 | 17 | 9.86 206 | 27 | 0.13 794 | 9.90 768 | 9 | 57 | |
| 4 | 9.76 991 | 17 | 9.86 232 | 26 | 0.13 768 | 9.90 759 | 9 | 56 | |
| 5 | 9.77 009 | 18 | 9.86 259 | 27 | 0.13 741 | 9.90 750 | 9 | 55 | 27 26 18 |
| 6 | 9.77 026 | 17 | 9.86 285 | 26 | 0.13 715 | 9.90 741 | 9 | 54 | 2 5.4 5.2 3.6 |
| 7 | 9.77 043 | 17 | 9.86 312 | 27 | 0.13 688 | 9.90 731 | 10 | 53 | 3 8.1 7.8 5.4 |
| 8 | 9.77 061 | 18 | 9.86 338 | 26 | 0.13 662 | 9.90 722 | 9 | 52 | 4 10.8 10.4 7.2 |
| 9 | 9.77 078 | 17 | 9.86 365 | 27 | 0.13 635 | 9.90 713 | 9 | 51 | 5 13.5 13.0 9.0 |
| 10 | 9.77 095 | 17 | 9.86 392 | 26 | 0.13 608 | 9.90 704 | 9 | 50 | 6 16.2 15.6 10.8 |
| 11 | 9.77 112 | 18 | 9.86 418 | 27 | 0.13 582 | 9.90 694 | 10 | 49 | 7 18.9 18.2 12.6 |
| 12 | 9.77 130 | 17 | 9.86 445 | 26 | 0.13 555 | 9.90 685 | 9 | 48 | 8 21.6 20.8 14.4 |
| 13 | 9.77 147 | 17 | 9.86 471 | 27 | 0.13 529 | 9.90 676 | 9 | 47 | 9 24.3 23.4 16.2 |
| 14 | 9.77 164 | 17 | 9.86 498 | 26 | 0.13 502 | 9.90 667 | 10 | 46 | |
| 15 | 9.77 181 | 18 | 9.86 524 | 27 | 0.13 476 | 9.90 657 | 9 | 45 | |
| 16 | 9.77 199 | 17 | 9.86 551 | 26 | 0.13 449 | 9.90 648 | 9 | 44 | 17 16 |
| 17 | 9.77 216 | 17 | 9.86 577 | 27 | 0.13 423 | 9.90 639 | 9 | 43 | 2 3.4 3.2 |
| 18 | 9.77 233 | 18 | 9.86 603 | 26 | 0.13 397 | 9.90 630 | 9 | 42 | 3 5.1 4.8 |
| 19 | 9.77 250 | 17 | 9.86 630 | 27 | 0.13 370 | 9.90 620 | 10 | 41 | 4 6.8 6.4 |
| 20 | 9.77 268 | 18 | 9.86 656 | 26 | 0.13 344 | 9.90 611 | 9 | 40 | 5 8.5 8.0 |
| 21 | 9.77 285 | 17 | 9.86 683 | 27 | 0.13 317 | 9.90 602 | 9 | 39 | 6 10.2 9.6 |
| 22 | 9.77 302 | 17 | 9.86 709 | 26 | 0.13 291 | 9.90 592 | 10 | 38 | 7 11.9 11.2 |
| 23 | 9.77 319 | 18 | 9.86 736 | 27 | 0.13 264 | 9.90 583 | 9 | 37 | 8 13.6 12.8 |
| 24 | 9.77 336 | 17 | 9.86 762 | 26 | 0.13 238 | 9.90 574 | 9 | 36 | 9 15.3 14.4 |
| 25 | 9.77 353 | 17 | 9.86 789 | 27 | 0.13 211 | 9.90 565 | 9 | 35 | |
| 26 | 9.77 370 | 18 | 9.86 815 | 26 | 0.13 185 | 9.90 555 | 10 | 34 | |
| 27 | 9.77 387 | 17 | 9.86 842 | 27 | 0.13 158 | 9.90 546 | 9 | 33 | |
| 28 | 9.77 405 | 18 | 9.86 868 | 26 | 0.13 132 | 9.90 537 | 9 | 32 | 10 9 |
| 29 | 9.77 422 | 17 | 9.86 894 | 27 | 0.13 106 | 9.90 527 | 10 | 31 | 2 2.0 1.8 |
| 30 | 9.77 439 | 18 | 9.86 921 | 26 | 0.13 079 | 9.90 518 | 9 | 30 | 3 3.0 2.7 |
| 31 | 9.77 456 | 17 | 9.86 947 | 27 | 0.13 053 | 9.90 509 | 9 | 29 | 4 4.0 3.6 |
| 32 | 9.77 473 | 18 | 9.86 974 | 26 | 0.13 026 | 9.90 499 | 10 | 28 | 5 5.0 4.5 |
| 33 | 9.77 490 | 17 | 9.87 000 | 27 | 0.13 000 | 9.90 490 | 9 | 27 | 6 6.0 5.4 |
| 34 | 9.77 507 | 18 | 9.87 027 | 26 | 0.12 973 | 9.90 480 | 10 | 26 | 7 7.0 6.3 |
| 35 | 9.77 524 | 17 | 9.87 053 | 27 | 0.12 947 | 9.90 471 | 9 | 25 | 8 8.0 7.2 |
| 36 | 9.77 541 | 18 | 9.87 079 | 26 | 0.12 921 | 9.90 462 | 9 | 24 | 9 9.0 8.1 |
| 37 | 9.77 558 | 17 | 9.87 106 | 27 | 0.12 894 | 9.90 452 | 10 | 23 | |
| 38 | 9.77 575 | 18 | 9.87 132 | 26 | 0.12 868 | 9.90 443 | 9 | 22 | |
| 39 | 9.77 592 | 17 | 9.87 158 | 27 | 0.12 842 | 9.90 434 | 9 | 21 | |
| 40 | 9.77 609 | 18 | 9.87 185 | 26 | 0.12 815 | 9.90 424 | 10 | 20 | |
| 41 | 9.77 626 | 17 | 9.87 211 | 27 | 0.12 789 | 9.90 415 | 9 | 19 | |
| 42 | 9.77 643 | 18 | 9.87 238 | 26 | 0.12 762 | 9.90 405 | 10 | 18 | |
| 43 | 9.77 660 | 17 | 9.87 264 | 27 | 0.12 736 | 9.90 396 | 9 | 17 | |
| 44 | 9.77 677 | 18 | 9.87 290 | 26 | 0.12 710 | 9.90 386 | 10 | 16 | |
| 45 | 9.77 694 | 17 | 9.87 317 | 27 | 0.12 683 | 9.90 377 | 9 | 15 | |
| 46 | 9.77 711 | 18 | 9.87 343 | 26 | 0.12 657 | 9.90 368 | 9 | 14 | |
| 47 | 9.77 728 | 17 | 9.87 369 | 27 | 0.12 631 | 9.90 358 | 10 | 13 | |
| 48 | 9.77 744 | 18 | 9.87 396 | 26 | 0.12 604 | 9.90 349 | 9 | 12 | |
| 49 | 9.77 761 | 17 | 9.87 422 | 27 | 0.12 578 | 9.90 339 | 10 | 11 | |
| 50 | 9.77 778 | 18 | 9.87 448 | 26 | 0.12 552 | 9.90 330 | 9 | 10 | |
| 51 | 9.77 795 | 17 | 9.87 475 | 27 | 0.12 525 | 9.90 320 | 9 | 9 | |
| 52 | 9.77 812 | 18 | 9.87 501 | 26 | 0.12 499 | 9.90 311 | 9 | 8 | |
| 53 | 9.77 829 | 17 | 9.87 527 | 27 | 0.12 473 | 9.90 301 | 10 | 7 | |
| 54 | 9.77 846 | 18 | 9.87 554 | 26 | 0.12 446 | 9.90 292 | 9 | 6 | |
| 55 | 9.77 862 | 17 | 9.87 580 | 27 | 0.12 420 | 9.90 282 | 10 | 5 | |
| 56 | 9.77 879 | 18 | 9.87 606 | 26 | 0.12 394 | 9.90 273 | 9 | 4 | |
| 57 | 9.77 896 | 17 | 9.87 633 | 27 | 0.12 367 | 9.90 263 | 10 | 3 | |
| 58 | 9.77 913 | 18 | 9.87 659 | 26 | 0.12 341 | 9.90 254 | 9 | 2 | |
| 59 | 9.77 930 | 17 | 9.87 685 | 27 | 0.12 315 | 9.90 244 | 10 | 1 | |
| 60 | 9.77 946 | 16 | 9.87 711 | 26 | 0.12 289 | 9.90 235 | 9 | 0 | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | d | | Prop. Pts. |

From the top :

For 36°+ or 216°+,
read as printed; for
126°+ or 306°+, read
co-function.

From the bottom :

For 53°+ or 233°+,
read as printed; for
143°+ or 323°+, read
co-function.

| | L Sin | d | L Tan | c d | L Ctn | L Cos | d | | Prop. Pts. | | | |
|----|----------|----|----------|-----|----------|----------|----|----|------------|--|--|--|
| 0 | 9.77 946 | | 9.87 711 | | 0.12 289 | 9.90 235 | | 60 | | | | |
| 1 | 9.77 963 | 17 | 9.87 738 | 27 | 0.12 262 | 9.90 225 | 10 | 59 | | | | |
| 2 | 9.77 980 | 17 | 9.87 764 | 26 | 0.12 236 | 9.90 216 | 9 | 58 | | | | |
| 3 | 9.77 997 | 17 | 9.87 790 | 26 | 0.12 210 | 9.90 206 | 10 | 57 | | | | |
| 4 | 9.78 013 | 16 | 9.87 817 | 27 | 0.12 183 | 9.90 197 | 9 | 56 | | | | |
| | | 17 | | 26 | | | 10 | | | | | |
| 5 | 9.78 030 | | 9.87 843 | | 0.12 157 | 9.90 187 | | 55 | | | | |
| 6 | 9.78 047 | 17 | 9.87 869 | 26 | 0.12 131 | 9.90 178 | 9 | 54 | | | | |
| 7 | 9.78 063 | 16 | 9.87 895 | 26 | 0.12 105 | 9.90 168 | 10 | 53 | | | | |
| 8 | 9.78 080 | 17 | 9.87 922 | 27 | 0.12 078 | 9.90 159 | 9 | 52 | | | | |
| 9 | 9.78 097 | 17 | 9.87 948 | 26 | 0.12 052 | 9.90 149 | 10 | 51 | | | | |
| | | 16 | | 26 | | | 10 | | | | | |
| 10 | 9.78 113 | | 9.87 974 | | 0.12 026 | 9.90 139 | | 50 | | | | |
| 11 | 9.78 130 | 17 | 9.88 000 | 26 | 0.12 000 | 9.90 130 | 9 | 49 | | | | |
| 12 | 9.78 147 | 17 | 9.88 027 | 27 | 0.11 973 | 9.90 120 | 10 | 48 | | | | |
| 13 | 9.78 163 | 16 | 9.88 053 | 26 | 0.11 947 | 9.90 111 | 9 | 47 | | | | |
| 14 | 9.78 180 | 17 | 9.88 079 | 26 | 0.11 921 | 9.90 101 | 10 | 46 | | | | |
| | | 17 | | 26 | | | 10 | | | | | |
| 15 | 9.78 197 | | 9.88 105 | | 0.11 895 | 9.90 091 | | 45 | | | | |
| 16 | 9.78 213 | 16 | 9.88 131 | 26 | 0.11 869 | 9.90 082 | 9 | 44 | | | | |
| 17 | 9.78 230 | 17 | 9.88 158 | 27 | 0.11 842 | 9.90 072 | 10 | 43 | | | | |
| 18 | 9.78 246 | 16 | 9.88 184 | 26 | 0.11 816 | 9.90 063 | 9 | 42 | | | | |
| 19 | 9.78 263 | 17 | 9.88 210 | 26 | 0.11 790 | 9.90 053 | 10 | 41 | | | | |
| | | 17 | | 26 | | | 10 | | | | | |
| 20 | 9.78 280 | | 9.88 236 | | 0.11 764 | 9.90 043 | | 40 | | | | |
| 21 | 9.78 296 | 16 | 9.88 262 | 26 | 0.11 738 | 9.90 034 | 9 | 39 | | | | |
| 22 | 9.78 313 | 17 | 9.88 289 | 27 | 0.11 711 | 9.90 024 | 10 | 38 | | | | |
| 23 | 9.78 329 | 16 | 9.88 315 | 26 | 0.11 685 | 9.90 014 | 10 | 37 | | | | |
| 24 | 9.78 346 | 17 | 9.88 341 | 26 | 0.11 659 | 9.90 005 | 9 | 36 | | | | |
| | | 16 | | 26 | | | 10 | | | | | |
| 25 | 9.78 362 | | 9.88 367 | | 0.11 633 | 9.89 995 | | 35 | | | | |
| 26 | 9.78 379 | 17 | 9.88 393 | 26 | 0.11 607 | 9.89 985 | 9 | 34 | | | | |
| 27 | 9.78 395 | 16 | 9.88 420 | 27 | 0.11 580 | 9.89 976 | 9 | 33 | | | | |
| 28 | 9.78 412 | 17 | 9.88 446 | 26 | 0.11 554 | 9.89 966 | 10 | 32 | | | | |
| 29 | 9.78 428 | 16 | 9.88 472 | 26 | 0.11 528 | 9.89 956 | 10 | 31 | | | | |
| | | 17 | | 26 | | | 9 | | | | | |
| 30 | 9.78 445 | | 9.88 498 | | 0.11 502 | 9.89 947 | | 30 | | | | |
| 31 | 9.78 461 | 16 | 9.88 524 | 26 | 0.11 476 | 9.89 937 | 10 | 29 | | | | |
| 32 | 9.78 478 | 17 | 9.88 550 | 26 | 0.11 450 | 9.89 927 | 9 | 28 | | | | |
| 33 | 9.78 494 | 16 | 9.88 577 | 27 | 0.11 423 | 9.89 918 | 9 | 27 | | | | |
| 34 | 9.78 510 | 16 | 9.88 603 | 26 | 0.11 397 | 9.89 908 | 10 | 26 | | | | |
| | | 17 | | 26 | | | 10 | | | | | |
| 35 | 9.78 527 | | 9.88 629 | | 0.11 371 | 9.89 898 | | 25 | | | | |
| 36 | 9.78 543 | 16 | 9.88 655 | 26 | 0.11 345 | 9.89 888 | 9 | 24 | | | | |
| 37 | 9.78 560 | 17 | 9.88 681 | 26 | 0.11 319 | 9.89 879 | 9 | 23 | | | | |
| 38 | 9.78 576 | 16 | 9.88 707 | 26 | 0.11 293 | 9.89 869 | 10 | 22 | | | | |
| 39 | 9.78 592 | 17 | 9.88 733 | 26 | 0.11 267 | 9.89 859 | 10 | 21 | | | | |
| | | 16 | | 26 | | | 10 | | | | | |
| 40 | 9.78 609 | | 9.88 759 | | 0.11 241 | 9.89 849 | | 20 | | | | |
| 41 | 9.78 625 | 16 | 9.88 786 | 27 | 0.11 214 | 9.89 840 | 9 | 19 | | | | |
| 42 | 9.78 642 | 17 | 9.88 812 | 26 | 0.11 188 | 9.89 830 | 10 | 18 | | | | |
| 43 | 9.78 658 | 16 | 9.88 838 | 26 | 0.11 162 | 9.89 820 | 10 | 17 | | | | |
| 44 | 9.78 674 | 16 | 9.88 864 | 26 | 0.11 136 | 9.89 810 | 10 | 16 | | | | |
| | | 17 | | 26 | | | 9 | | | | | |
| 45 | 9.78 691 | | 9.88 890 | | 0.11 110 | 9.89 801 | | 15 | | | | |
| 46 | 9.78 707 | 16 | 9.88 916 | 26 | 0.11 084 | 9.89 791 | 10 | 14 | | | | |
| 47 | 9.78 723 | 16 | 9.88 942 | 26 | 0.11 058 | 9.89 781 | 10 | 13 | | | | |
| 48 | 9.78 739 | 16 | 9.88 968 | 26 | 0.11 032 | 9.89 771 | 10 | 12 | | | | |
| 49 | 9.78 756 | 17 | 9.88 994 | 26 | 0.11 006 | 9.89 761 | 9 | 11 | | | | |
| | | 16 | | 26 | | | 10 | | | | | |
| 50 | 9.78 772 | | 9.89 020 | | 0.10 980 | 9.89 752 | | 10 | | | | |
| 51 | 9.78 788 | 16 | 9.89 046 | 26 | 0.10 954 | 9.89 742 | 10 | 9 | | | | |
| 52 | 9.78 805 | 17 | 9.89 073 | 27 | 0.10 927 | 9.89 732 | 10 | 8 | | | | |
| 53 | 9.78 821 | 16 | 9.89 099 | 26 | 0.10 901 | 9.89 722 | 10 | 7 | | | | |
| 54 | 9.78 837 | 16 | 9.89 125 | 26 | 0.10 875 | 9.89 712 | 10 | 6 | | | | |
| | | 16 | | 26 | | | 10 | | | | | |
| 55 | 9.78 853 | | 9.89 151 | | 0.10 849 | 9.89 702 | | 5 | | | | |
| 56 | 9.78 869 | 16 | 9.89 177 | 26 | 0.10 823 | 9.89 693 | 9 | 4 | | | | |
| 57 | 9.78 886 | 17 | 9.89 203 | 26 | 0.10 797 | 9.89 683 | 10 | 3 | | | | |
| 58 | 9.78 902 | 16 | 9.89 229 | 26 | 0.10 771 | 9.89 673 | 10 | 2 | | | | |
| 59 | 9.78 918 | 16 | 9.89 255 | 26 | 0.10 745 | 9.89 663 | 10 | 1 | | | | |
| 60 | 9.78 934 | 16 | 9.89 281 | 26 | 0.10 719 | 9.89 653 | 10 | 0 | | | | |
| | | | | | | | | | | | | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | d | | Prop. Pts. | | | |

| | 27 | 26 | 17 |
|---|------|------|------|
| 2 | 5.4 | 5.2 | 3.4 |
| 3 | 8.1 | 7.8 | 5.1 |
| 4 | 10.8 | 10.4 | 6.8 |
| 5 | 13.5 | 13.0 | 8.5 |
| 6 | 16.2 | 15.6 | 10.2 |
| 7 | 18.9 | 18.2 | 11.9 |
| 8 | 21.6 | 20.8 | 13.6 |
| 9 | 24.3 | 23.4 | 15.3 |

| | 16 | 10 | 9 |
|---|------|-----|-----|
| 2 | 3.2 | 2.0 | 1.8 |
| 3 | 4.8 | 3.0 | 2.7 |
| 4 | 6.4 | 4.0 | 3.6 |
| 5 | 8.0 | 5.0 | 4.5 |
| 6 | 9.6 | 6.0 | 5.4 |
| 7 | 11.2 | 7.0 | 6.3 |
| 8 | 12.8 | 8.0 | 7.2 |
| 9 | 14.4 | 9.0 | 8.1 |

From the top :

For $37^{\circ+}$ or $217^{\circ+}$,
read as printed; for
 $127^{\circ+}$ or $307^{\circ+}$, read
co-function.

From the bottom :

For $52^{\circ+}$ or $232^{\circ+}$,
read as printed; for
 $142^{\circ+}$ or $322^{\circ+}$, read
co-function.

| <i>i</i> | L Sin | <i>d</i> | L Tan | <i>c d</i> | L Ctn | L Cos | <i>d</i> | Prop. Pts. | | | |
|-----------|--------------|----------|--------------|------------|--------------|--------------|-----------|-------------------|-----------|-----------|------|
| 0 | 9.78 934 | | 9.89 281 | | 0.10 719 | 9.89 653 | 60 | | | | |
| 1 | 9.78 950 | 16 | 9.89 307 | 26 | 0.10 693 | 9.89 643 | 59 | | | | |
| 2 | 9.78 967 | 17 | 9.89 333 | 26 | 0.10 667 | 9.89 633 | 58 | | | | |
| 3 | 9.78 983 | 16 | 9.89 359 | 26 | 0.10 641 | 9.89 624 | 57 | | | | |
| 4 | 9.78 999 | 16 | 9.89 385 | 26 | 0.10 615 | 9.89 614 | 56 | | | | |
| 5 | 9.79 015 | | 9.89 411 | | 0.10 589 | 9.89 604 | 55 | 26 | 25 | 17 | |
| 6 | 9.79 031 | 16 | 9.89 437 | 26 | 0.10 563 | 9.89 594 | 54 | 2 | 5.2 | 5.0 | 3.4 |
| 7 | 9.79 047 | 16 | 9.89 463 | 26 | 0.10 537 | 9.89 584 | 53 | 3 | 7.8 | 7.5 | 5.1 |
| 8 | 9.79 063 | 16 | 9.89 489 | 26 | 0.10 511 | 9.89 574 | 52 | 4 | 10.4 | 10.0 | 6.8 |
| 9 | 9.79 079 | 16 | 9.89 515 | 26 | 0.10 485 | 9.89 564 | 51 | 5 | 13.0 | 12.5 | 8.5 |
| 10 | 9.79 095 | 16 | 9.89 541 | 26 | 0.10 459 | 9.89 554 | 50 | 6 | 15.6 | 15.0 | 10.2 |
| 11 | 9.79 111 | 16 | 9.89 567 | 26 | 0.10 433 | 9.89 544 | 49 | 7 | 18.2 | 17.5 | 11.9 |
| 12 | 9.79 128 | 17 | 9.89 593 | 26 | 0.10 407 | 9.89 534 | 48 | 8 | 20.8 | 20.0 | 13.6 |
| 13 | 9.79 144 | 16 | 9.89 619 | 26 | 0.10 381 | 9.89 524 | 47 | 9 | 23.4 | 22.5 | 15.3 |
| 14 | 9.79 160 | 16 | 9.89 645 | 26 | 0.10 355 | 9.89 514 | 46 | | | | |
| 15 | 9.79 176 | 16 | 9.89 671 | 26 | 0.10 329 | 9.89 504 | 45 | | | | |
| 16 | 9.79 192 | 16 | 9.89 697 | 26 | 0.10 303 | 9.89 495 | 44 | 16 | 15 | 11 | |
| 17 | 9.79 208 | 16 | 9.89 723 | 26 | 0.10 277 | 9.89 485 | 43 | 2 | 3.2 | 3.0 | 2.2 |
| 18 | 9.79 224 | 16 | 9.89 749 | 26 | 0.10 251 | 9.89 475 | 42 | 3 | 4.8 | 4.5 | 3.3 |
| 19 | 9.79 240 | 16 | 9.89 775 | 26 | 0.10 225 | 9.89 465 | 41 | 4 | 6.4 | 6.0 | 4.4 |
| 20 | 9.79 256 | 16 | 9.89 801 | 26 | 0.10 199 | 9.89 455 | 40 | 5 | 8.0 | 7.5 | 5.5 |
| 21 | 9.79 272 | 16 | 9.89 827 | 26 | 0.10 173 | 9.89 445 | 39 | 6 | 9.6 | 9.0 | 6.6 |
| 22 | 9.79 288 | 16 | 9.89 853 | 26 | 0.10 147 | 9.89 435 | 38 | 7 | 11.2 | 10.5 | 7.7 |
| 23 | 9.79 304 | 16 | 9.89 879 | 26 | 0.10 121 | 9.89 425 | 37 | 8 | 12.8 | 12.0 | 8.8 |
| 24 | 9.79 319 | 15 | 9.89 905 | 26 | 0.10 095 | 9.89 415 | 36 | 9 | 14.4 | 13.5 | 9.9 |
| 25 | 9.79 335 | 16 | 9.89 931 | 26 | 0.10 069 | 9.89 405 | 35 | | | | |
| 26 | 9.79 351 | 16 | 9.89 957 | 26 | 0.10 043 | 9.89 395 | 34 | | | | |
| 27 | 9.79 367 | 16 | 9.89 983 | 26 | 0.10 017 | 9.89 385 | 33 | 10 | 9 | | |
| 28 | 9.79 383 | 16 | 9.90 009 | 26 | 0.09 991 | 9.89 375 | 32 | 2 | 2.0 | 1.8 | |
| 29 | 9.79 399 | 16 | 9.90 035 | 26 | 0.09 965 | 9.89 364 | 31 | 3 | 3.0 | 2.7 | |
| 30 | 9.79 415 | 16 | 9.90 061 | 25 | 0.09 939 | 9.89 354 | 30 | 4 | 4.0 | 3.6 | |
| 31 | 9.79 431 | 16 | 9.90 086 | 26 | 0.09 914 | 9.89 344 | 29 | 5 | 5.0 | 4.5 | |
| 32 | 9.79 447 | 16 | 9.90 112 | 26 | 0.09 888 | 9.89 334 | 28 | 6 | 6.0 | 5.4 | |
| 33 | 9.79 463 | 16 | 9.90 138 | 26 | 0.09 862 | 9.89 324 | 27 | 7 | 7.0 | 6.3 | |
| 34 | 9.79 478 | 15 | 9.90 164 | 26 | 0.09 836 | 9.89 314 | 26 | 8 | 8.0 | 7.2 | |
| 35 | 9.79 494 | 16 | 9.90 190 | 26 | 0.09 810 | 9.89 304 | 25 | 9 | 9.0 | 8.1 | |
| 36 | 9.79 510 | 16 | 9.90 216 | 26 | 0.09 784 | 9.89 294 | 24 | | | | |
| 37 | 9.79 526 | 16 | 9.90 242 | 26 | 0.09 758 | 9.89 284 | 23 | | | | |
| 38 | 9.79 542 | 16 | 9.90 268 | 26 | 0.09 732 | 9.89 274 | 22 | | | | |
| 39 | 9.79 558 | 16 | 9.90 294 | 26 | 0.09 706 | 9.89 264 | 21 | | | | |
| 40 | 9.79 573 | 15 | 9.90 320 | 26 | 0.09 680 | 9.89 254 | 20 | | | | |
| 41 | 9.79 589 | 16 | 9.90 346 | 26 | 0.09 654 | 9.89 244 | 19 | | | | |
| 42 | 9.79 605 | 16 | 9.90 371 | 25 | 0.09 629 | 9.89 233 | 18 | | | | |
| 43 | 9.79 621 | 16 | 9.90 397 | 26 | 0.09 603 | 9.89 223 | 17 | | | | |
| 44 | 9.79 636 | 15 | 9.90 423 | 26 | 0.09 577 | 9.89 213 | 16 | | | | |
| 45 | 9.79 652 | 16 | 9.90 449 | 26 | 0.09 551 | 9.89 203 | 15 | | | | |
| 46 | 9.79 668 | 16 | 9.90 475 | 26 | 0.09 525 | 9.89 193 | 14 | | | | |
| 47 | 9.79 684 | 16 | 9.90 501 | 26 | 0.09 499 | 9.89 183 | 13 | | | | |
| 48 | 9.79 699 | 15 | 9.90 527 | 26 | 0.09 473 | 9.89 173 | 12 | | | | |
| 49 | 9.79 715 | 16 | 9.90 553 | 26 | 0.09 447 | 9.89 162 | 11 | | | | |
| 50 | 9.79 731 | 16 | 9.90 578 | 25 | 0.09 422 | 9.89 152 | 10 | | | | |
| 51 | 9.79 746 | 15 | 9.90 604 | 26 | 0.09 396 | 9.89 142 | 9 | | | | |
| 52 | 9.79 762 | 16 | 9.90 630 | 26 | 0.09 370 | 9.89 132 | 8 | | | | |
| 53 | 9.79 778 | 16 | 9.90 656 | 26 | 0.09 344 | 9.89 122 | 7 | | | | |
| 54 | 9.79 793 | 15 | 9.90 682 | 26 | 0.09 318 | 9.89 112 | 6 | | | | |
| 55 | 9.79 809 | 16 | 9.90 708 | 26 | 0.09 292 | 9.89 101 | 5 | | | | |
| 56 | 9.79 825 | 16 | 9.90 734 | 26 | 0.09 266 | 9.89 091 | 4 | | | | |
| 57 | 9.79 840 | 15 | 9.90 759 | 25 | 0.09 241 | 9.89 081 | 3 | | | | |
| 58 | 9.79 856 | 16 | 9.90 785 | 26 | 0.09 215 | 9.89 071 | 2 | | | | |
| 59 | 9.79 872 | 16 | 9.90 811 | 26 | 0.09 189 | 9.89 060 | 1 | | | | |
| 60 | 9.79 887 | 15 | 9.90 837 | 26 | 0.09 163 | 9.89 050 | 0 | | | | |
| | L Cos | <i>d</i> | L Ctn | <i>c d</i> | L Tan | L Sin | <i>i</i> | Prop. Pts. | | | |

From the top:

For $38^{\circ+}$ or $218^{\circ+}$,
 read as printed; for
 $128^{\circ+}$ or $308^{\circ+}$, read
 co-function.

From the bottom:

For $51^{\circ+}$ or $231^{\circ+}$,
 read as printed; for
 $141^{\circ+}$ or $321^{\circ+}$, read
 co-function.

| ° | L Sin | | d | L Tan | | c d | L Ctn | | L Cos | d | | Prop. Pts. | | | |
|----|----------|---|----|----------|-----|-----|----------|--|----------|----|-----------|------------|------|------|------|
| | | | | | | | | | | | | | | | |
| 0 | 9.79 887 | | 16 | 9.90 837 | | 26 | 0.09 163 | | 9.89 050 | 10 | 60 | | | | |
| 1 | 9.79 903 | | 15 | 9.90 863 | | 26 | 0.09 137 | | 9.89 040 | 10 | 59 | | | | |
| 2 | 9.79 918 | | 16 | 9.90 889 | | 25 | 0.09 111 | | 9.89 030 | 10 | 58 | | | | |
| 3 | 9.79 934 | | 16 | 9.90 914 | | 26 | 0.09 086 | | 9.89 020 | 10 | 57 | | | | |
| 4 | 9.79 950 | | 15 | 9.90 940 | | 26 | 0.09 060 | | 9.89 009 | 11 | 56 | | | | |
| 5 | 9.79 965 | | 16 | 9.90 966 | | 26 | 0.09 034 | | 9.88 999 | 10 | 55 | | | | |
| 6 | 9.79 981 | | 15 | 9.90 992 | | 26 | 0.09 008 | | 9.88 989 | 11 | 54 | | | | |
| 7 | 9.79 996 | | 16 | 9.91 018 | | 25 | 0.08 982 | | 9.88 978 | 10 | 53 | | | | |
| 8 | 9.80 012 | | 15 | 9.91 043 | | 26 | 0.08 957 | | 9.88 968 | 10 | 52 | | | | |
| 9 | 9.80 027 | | 16 | 9.91 069 | | 26 | 0.08 931 | | 9.88 958 | 10 | 51 | | | | |
| 10 | 9.80 043 | | 15 | 9.91 095 | | 26 | 0.08 905 | | 9.88 948 | 11 | 50 | | | | |
| 11 | 9.80 058 | | 16 | 9.91 121 | | 26 | 0.08 879 | | 9.88 937 | 10 | 49 | 2 | 5.2 | 5.0 | 3.2 |
| 12 | 9.80 074 | | 15 | 9.91 147 | | 25 | 0.08 853 | | 9.88 927 | 10 | 48 | 3 | 7.8 | 7.5 | 4.8 |
| 13 | 9.80 089 | | 16 | 9.91 172 | | 26 | 0.08 828 | | 9.88 917 | 11 | 47 | 4 | 10.4 | 10.0 | 6.4 |
| 14 | 9.80 105 | | 15 | 9.91 198 | | 26 | 0.08 802 | | 9.88 906 | 10 | 46 | 5 | 13.0 | 12.5 | 8.0 |
| 15 | 9.80 120 | | 16 | 9.91 224 | | 26 | 0.08 776 | | 9.88 896 | 10 | 45 | 6 | 15.6 | 15.0 | 9.6 |
| 16 | 9.80 136 | | 15 | 9.91 250 | | 26 | 0.08 750 | | 9.88 886 | 11 | 44 | 7 | 18.2 | 17.5 | 11.2 |
| 17 | 9.80 151 | | 16 | 9.91 276 | | 25 | 0.08 724 | | 9.88 875 | 10 | 43 | 8 | 20.8 | 20.0 | 12.8 |
| 18 | 9.80 166 | | 15 | 9.91 301 | | 26 | 0.08 699 | | 9.88 865 | 10 | 42 | 9 | 23.4 | 22.5 | 14.4 |
| 19 | 9.80 182 | | 16 | 9.91 327 | | 26 | 0.08 673 | | 9.88 855 | 11 | 41 | | | | |
| 20 | 9.80 197 | | 15 | 9.91 353 | | 26 | 0.08 647 | | 9.88 844 | 10 | 40 | | | | |
| 21 | 9.80 213 | | 16 | 9.91 379 | | 25 | 0.08 621 | | 9.88 834 | 10 | 39 | | | | |
| 22 | 9.80 228 | | 15 | 9.91 404 | | 26 | 0.08 596 | | 9.88 824 | 10 | 38 | | | | |
| 23 | 9.80 244 | | 16 | 9.91 430 | | 26 | 0.08 570 | | 9.88 813 | 11 | 37 | | | | |
| 24 | 9.80 259 | | 15 | 9.91 456 | | 26 | 0.08 544 | | 9.88 803 | 10 | 36 | 2 | 3.0 | 2.2 | 2.0 |
| 25 | 9.80 274 | | 16 | 9.91 482 | | 25 | 0.08 518 | | 9.88 793 | 11 | 35 | 3 | 4.5 | 3.3 | 3.0 |
| 26 | 9.80 290 | | 15 | 9.91 507 | | 26 | 0.08 493 | | 9.88 782 | 10 | 34 | 4 | 6.0 | 4.4 | 4.0 |
| 27 | 9.80 305 | | 16 | 9.91 533 | | 26 | 0.08 467 | | 9.88 772 | 11 | 33 | 5 | 7.5 | 5.5 | 5.0 |
| 28 | 9.80 320 | | 15 | 9.91 559 | | 26 | 0.08 441 | | 9.88 761 | 10 | 32 | 6 | 9.0 | 6.6 | 6.0 |
| 29 | 9.80 336 | | 16 | 9.91 585 | | 25 | 0.08 415 | | 9.88 751 | 10 | 31 | 7 | 10.5 | 7.7 | 7.0 |
| 30 | 9.80 351 | | 15 | 9.91 610 | | 26 | 0.08 390 | | 9.88 741 | 11 | 30 | 8 | 12.0 | 8.8 | 8.0 |
| 31 | 9.80 366 | | 16 | 9.91 636 | | 26 | 0.08 364 | | 9.88 730 | 10 | 29 | 9 | 13.5 | 9.9 | 9.0 |
| 32 | 9.80 382 | | 15 | 9.91 662 | | 26 | 0.08 338 | | 9.88 720 | 10 | 28 | | | | |
| 33 | 9.80 397 | | 16 | 9.91 688 | | 25 | 0.08 312 | | 9.88 709 | 11 | 27 | | | | |
| 34 | 9.80 412 | | 15 | 9.91 713 | | 26 | 0.08 287 | | 9.88 699 | 10 | 26 | | | | |
| 35 | 9.80 428 | | 16 | 9.91 739 | | 26 | 0.08 261 | | 9.88 688 | 11 | 25 | | | | |
| 36 | 9.80 443 | | 15 | 9.91 765 | | 26 | 0.08 235 | | 9.88 678 | 10 | 24 | | | | |
| 37 | 9.80 458 | | 16 | 9.91 791 | | 25 | 0.08 209 | | 9.88 668 | 11 | 23 | | | | |
| 38 | 9.80 473 | | 15 | 9.91 816 | | 26 | 0.08 184 | | 9.88 657 | 10 | 22 | | | | |
| 39 | 9.80 489 | | 16 | 9.91 842 | | 26 | 0.08 158 | | 9.88 647 | 11 | 21 | | | | |
| 40 | 9.80 504 | | 15 | 9.91 868 | | 25 | 0.08 132 | | 9.88 636 | 10 | 20 | | | | |
| 41 | 9.80 519 | | 16 | 9.91 893 | | 26 | 0.08 107 | | 9.88 626 | 11 | 19 | | | | |
| 42 | 9.80 534 | | 15 | 9.91 919 | | 26 | 0.08 081 | | 9.88 615 | 10 | 18 | | | | |
| 43 | 9.80 550 | | 16 | 9.91 945 | | 26 | 0.08 055 | | 9.88 605 | 11 | 17 | | | | |
| 44 | 9.80 565 | | 15 | 9.91 971 | | 25 | 0.08 029 | | 9.88 594 | 10 | 16 | | | | |
| 45 | 9.80 580 | | 16 | 9.91 996 | | 26 | 0.08 004 | | 9.88 584 | 11 | 15 | | | | |
| 46 | 9.80 595 | | 15 | 9.92 022 | | 26 | 0.07 978 | | 9.88 573 | 10 | 14 | | | | |
| 47 | 9.80 610 | | 16 | 9.92 048 | | 25 | 0.07 952 | | 9.88 563 | 11 | 13 | | | | |
| 48 | 9.80 625 | | 15 | 9.92 073 | | 26 | 0.07 927 | | 9.88 552 | 10 | 12 | | | | |
| 49 | 9.80 641 | | 16 | 9.92 099 | | 26 | 0.07 901 | | 9.88 542 | 11 | 11 | | | | |
| 50 | 9.80 656 | | 15 | 9.92 125 | | 25 | 0.07 875 | | 9.88 531 | 10 | 10 | | | | |
| 51 | 9.80 671 | | 16 | 9.92 150 | | 26 | 0.07 850 | | 9.88 521 | 11 | 9 | | | | |
| 52 | 9.80 686 | | 15 | 9.92 176 | | 26 | 0.07 824 | | 9.88 510 | 10 | 8 | | | | |
| 53 | 9.80 701 | | 16 | 9.92 202 | | 25 | 0.07 798 | | 9.88 499 | 11 | 7 | | | | |
| 54 | 9.80 716 | | 15 | 9.92 227 | | 26 | 0.07 773 | | 9.88 489 | 10 | 6 | | | | |
| 55 | 9.80 731 | | 16 | 9.92 253 | | 26 | 0.07 747 | | 9.88 478 | 11 | 5 | | | | |
| 56 | 9.80 746 | | 15 | 9.92 279 | | 25 | 0.07 721 | | 9.88 468 | 10 | 4 | | | | |
| 57 | 9.80 762 | | 16 | 9.92 304 | | 26 | 0.07 696 | | 9.88 457 | 11 | 3 | | | | |
| 58 | 9.80 777 | | 15 | 9.92 330 | | 26 | 0.07 670 | | 9.88 447 | 10 | 2 | | | | |
| 59 | 9.80 792 | | 16 | 9.92 356 | | 25 | 0.07 644 | | 9.88 436 | 11 | 1 | | | | |
| 60 | 9.80 807 | | 15 | 9.92 381 | | | 0.07 619 | | 9.88 425 | 11 | 0 | | | | |
| | L Cos | d | | L Ctn | c d | | L Tan | | L Sin | d | ' | Prop. Pts. | | | |

50° — Logarithms of Trigonometric Functions

| | L Sin | d | L Tan | c d | L Ctn | L Cos | d | Prop. Pts. | | | |
|----|----------|----|----------|-----|----------|----------|----|------------|----|------|------|
| 0 | 9.80 807 | | 9.92 381 | | 0.07 619 | 9.88 425 | | 60 | | | |
| 1 | 9.80 822 | 15 | 9.92 407 | 26 | 0.07 593 | 9.88 415 | 10 | 59 | | | |
| 2 | 9.80 837 | 15 | 9.92 433 | 26 | 0.07 567 | 9.88 404 | 11 | 58 | | | |
| 3 | 9.80 852 | 15 | 9.92 458 | 25 | 0.07 542 | 9.88 394 | 10 | 57 | | | |
| 4 | 9.80 867 | 15 | 9.92 484 | 26 | 0.07 516 | 9.88 383 | 11 | 56 | | | |
| | | 15 | | 26 | | | 11 | | | | |
| 5 | 9.80 882 | | 9.92 510 | | 0.07 490 | 9.88 372 | | 55 | | | |
| 6 | 9.80 897 | 15 | 9.92 535 | 25 | 0.07 465 | 9.88 362 | 10 | 54 | | | |
| 7 | 9.80 912 | 15 | 9.92 561 | 26 | 0.07 439 | 9.88 351 | 11 | 53 | | | |
| 8 | 9.80 927 | 15 | 9.92 587 | 26 | 0.07 413 | 9.88 340 | 11 | 52 | | | |
| 9 | 9.80 942 | 15 | 9.92 612 | 25 | 0.07 388 | 9.88 330 | 10 | 51 | | | |
| | | 15 | | 26 | | | 11 | | | | |
| 10 | 9.80 957 | | 9.92 638 | | 0.07 362 | 9.88 319 | | 50 | | | |
| 11 | 9.80 972 | 15 | 9.92 663 | 25 | 0.07 337 | 9.88 308 | 11 | 49 | 26 | 25 | 15 |
| 12 | 9.80 987 | 15 | 9.92 689 | 26 | 0.07 311 | 9.88 298 | 10 | 48 | 2 | 5.2 | 5.0 |
| 13 | 9.81 002 | 15 | 9.92 715 | 26 | 0.07 285 | 9.88 287 | 11 | 47 | 3 | 7.8 | 7.5 |
| 14 | 9.81 017 | 15 | 9.92 740 | 26 | 0.07 260 | 9.88 276 | 11 | 46 | 4 | 10.4 | 10.0 |
| | | 15 | | 26 | | | 10 | | 5 | 13.0 | 12.5 |
| 15 | 9.81 032 | | 9.92 766 | | 0.07 234 | 9.88 266 | | 45 | 6 | 15.6 | 15.0 |
| 16 | 9.81 047 | 15 | 9.92 792 | 26 | 0.07 208 | 9.88 255 | 11 | 44 | 7 | 18.2 | 17.5 |
| 17 | 9.81 061 | 14 | 9.92 817 | 25 | 0.07 183 | 9.88 244 | 11 | 43 | 8 | 20.8 | 20.0 |
| 18 | 9.81 076 | 15 | 9.92 843 | 26 | 0.07 157 | 9.88 234 | 10 | 42 | 9 | 23.4 | 22.5 |
| 19 | 9.81 091 | 15 | 9.92 868 | 25 | 0.07 132 | 9.88 223 | 11 | 41 | | | 13.5 |
| | | 15 | | 26 | | | 11 | | | | |
| 20 | 9.81 106 | | 9.92 894 | | 0.07 106 | 9.88 212 | | 40 | | | |
| 21 | 9.81 121 | 15 | 9.92 920 | 26 | 0.07 080 | 9.88 201 | 11 | 39 | | | |
| 22 | 9.81 136 | 15 | 9.92 945 | 25 | 0.07 055 | 9.88 191 | 10 | 38 | | 14 | 11 |
| 23 | 9.81 151 | 15 | 9.92 971 | 26 | 0.07 029 | 9.88 180 | 11 | 37 | 2 | 2.8 | 2.2 |
| 24 | 9.81 166 | 15 | 9.92 996 | 25 | 0.07 004 | 9.88 169 | 11 | 36 | 3 | 4.2 | 3.3 |
| | | 14 | | 26 | | | 11 | | 4 | 5.6 | 4.4 |
| 25 | 9.81 180 | | 9.93 022 | | 0.06 978 | 9.88 158 | | 35 | 5 | 7.0 | 5.5 |
| 26 | 9.81 195 | 15 | 9.93 048 | 26 | 0.06 952 | 9.88 148 | 10 | 34 | 6 | 8.4 | 6.6 |
| 27 | 9.81 210 | 15 | 9.93 073 | 26 | 0.06 927 | 9.88 137 | 11 | 33 | 7 | 9.8 | 7.7 |
| 28 | 9.81 225 | 15 | 9.93 099 | 25 | 0.06 901 | 9.88 126 | 11 | 32 | 8 | 11.2 | 8.8 |
| 29 | 9.81 240 | 15 | 9.93 124 | 26 | 0.06 876 | 9.88 115 | 10 | 31 | 9 | 12.6 | 9.9 |
| | | 14 | | | | | | 30 | | | |
| 30 | 9.81 254 | | 9.93 150 | | 0.06 850 | 9.88 105 | | 29 | | | |
| 31 | 9.81 269 | 15 | 9.93 175 | 25 | 0.06 825 | 9.88 094 | 11 | 28 | | | |
| 32 | 9.81 284 | 15 | 9.93 201 | 26 | 0.06 799 | 9.88 083 | 11 | 27 | | | |
| 33 | 9.81 299 | 15 | 9.93 227 | 25 | 0.06 773 | 9.88 072 | 11 | 26 | | | |
| 34 | 9.81 314 | 14 | 9.93 252 | 26 | 0.06 748 | 9.88 061 | 10 | 25 | | | |
| | | 15 | | 25 | | | 11 | | | | |
| 35 | 9.81 328 | | 9.93 278 | | 0.06 722 | 9.88 051 | | 24 | | | |
| 36 | 9.81 343 | 15 | 9.93 303 | 26 | 0.06 697 | 9.88 040 | 11 | 23 | | | |
| 37 | 9.81 358 | 15 | 9.93 329 | 25 | 0.06 671 | 9.88 029 | 11 | 22 | | | |
| 38 | 9.81 372 | 14 | 9.93 354 | 26 | 0.06 646 | 9.88 018 | 11 | 21 | | | |
| 39 | 9.81 387 | 15 | 9.93 380 | 26 | 0.06 620 | 9.88 007 | 11 | 20 | | | |
| | | 15 | | 25 | | | 11 | | | | |
| 40 | 9.81 402 | | 9.93 406 | | 0.06 594 | 9.87 996 | | 19 | | | |
| 41 | 9.81 417 | 15 | 9.93 431 | 25 | 0.06 569 | 9.87 985 | 11 | 18 | | | |
| 42 | 9.81 431 | 14 | 9.93 457 | 26 | 0.06 543 | 9.87 975 | 10 | 17 | | | |
| 43 | 9.81 446 | 15 | 9.93 482 | 25 | 0.06 518 | 9.87 964 | 11 | 16 | | | |
| 44 | 9.81 461 | 15 | 9.93 508 | 26 | 0.06 492 | 9.87 953 | 11 | 15 | | | |
| | | 14 | | 25 | | | 11 | | | | |
| 45 | 9.81 475 | | 9.93 533 | | 0.06 467 | 9.87 942 | | 14 | | | |
| 46 | 9.81 490 | 15 | 9.93 559 | 26 | 0.06 441 | 9.87 931 | 11 | 13 | | | |
| 47 | 9.81 505 | 15 | 9.93 584 | 25 | 0.06 416 | 9.87 920 | 11 | 12 | | | |
| 48 | 9.81 519 | 14 | 9.93 610 | 26 | 0.06 390 | 9.87 909 | 11 | 11 | | | |
| 49 | 9.81 534 | 15 | 9.93 636 | 25 | 0.06 364 | 9.87 898 | 11 | 10 | | | |
| | | 15 | | 26 | | | 10 | | | | |
| 50 | 9.81 549 | | 9.93 661 | | 0.06 339 | 9.87 887 | | 9 | | | |
| 51 | 9.81 563 | 14 | 9.93 687 | 25 | 0.06 313 | 9.87 877 | 11 | 8 | | | |
| 52 | 9.81 578 | 15 | 9.93 712 | 26 | 0.06 288 | 9.87 866 | 11 | 7 | | | |
| 53 | 9.81 592 | 14 | 9.93 738 | 25 | 0.06 262 | 9.87 855 | 11 | 6 | | | |
| 54 | 9.81 607 | 15 | 9.93 763 | 26 | 0.06 237 | 9.87 844 | 11 | 5 | | | |
| | | 15 | | 25 | | | 11 | | | | |
| 55 | 9.81 622 | | 9.93 789 | | 0.06 211 | 9.87 833 | | 4 | | | |
| 56 | 9.81 636 | 14 | 9.93 814 | 26 | 0.06 186 | 9.87 822 | 11 | 3 | | | |
| 57 | 9.81 651 | 15 | 9.93 840 | 25 | 0.06 160 | 9.87 811 | 11 | 2 | | | |
| 58 | 9.81 665 | 14 | 9.93 865 | 26 | 0.06 135 | 9.87 800 | 11 | 1 | | | |
| 59 | 9.81 680 | 15 | 9.93 891 | 25 | 0.06 109 | 9.87 789 | 11 | 0 | | | |
| | | 14 | | | | | | | | | |
| 60 | 9.81 694 | | 9.93 916 | | 0.06 084 | 9.87 778 | | | | | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | d | Prop. Pts. | | | |

From the top :

For 40°+ or 220°+,
read as printed; for
130°+ or 310°+, read
co-function.

From the bottom :

For 49°+ or 229°+,
read as printed; for
139°+ or 319°+, read
co-function.

| ° | L Sin | d | L Tan | c d | L Ctn | L Cos | d | | Prop. Pts. | | | |
|----|----------|----|----------|-----|----------|----------|----|----|------------|------|------|------|
| | | | | | | | | | | | | |
| 0 | 9.81 694 | 15 | 9.93 916 | 26 | 0.06 084 | 9.87 778 | 11 | 60 | | | | |
| 1 | 9.81 709 | 14 | 9.93 942 | 25 | 0.06 058 | 9.87 767 | 11 | 59 | | | | |
| 2 | 9.81 723 | 14 | 9.93 967 | 25 | 0.06 033 | 9.87 756 | 11 | 58 | | | | |
| 3 | 9.81 738 | 15 | 9.93 993 | 26 | 0.06 007 | 9.87 745 | 11 | 57 | | | | |
| 4 | 9.81 752 | 14 | 9.94 018 | 25 | 0.05 982 | 9.87 734 | 11 | 56 | | | | |
| 5 | 9.81 767 | 15 | 9.94 044 | 26 | 0.05 956 | 9.87 723 | 11 | 55 | | | | |
| 6 | 9.81 781 | 14 | 9.94 069 | 25 | 0.05 931 | 9.87 712 | 11 | 54 | | | | |
| 7 | 9.81 796 | 15 | 9.94 095 | 26 | 0.05 905 | 9.87 701 | 11 | 53 | | | | |
| 8 | 9.81 810 | 14 | 9.94 120 | 25 | 0.05 880 | 9.87 690 | 11 | 52 | | | | |
| 9 | 9.81 825 | 15 | 9.94 146 | 26 | 0.05 854 | 9.87 679 | 11 | 51 | | | | |
| 10 | 9.81 839 | 14 | 9.94 171 | 25 | 0.05 829 | 9.87 668 | 11 | 50 | 26 | 25 | 15 | |
| 11 | 9.81 854 | 15 | 9.94 197 | 26 | 0.05 803 | 9.87 657 | 11 | 49 | 2 | 5.2 | 5.0 | 3.0 |
| 12 | 9.81 868 | 14 | 9.94 222 | 25 | 0.05 778 | 9.87 646 | 11 | 48 | 3 | 7.8 | 7.5 | 4.5 |
| 13 | 9.81 882 | 14 | 9.94 248 | 26 | 0.05 752 | 9.87 635 | 11 | 47 | 4 | 10.4 | 10.0 | 6.0 |
| 14 | 9.81 897 | 15 | 9.94 273 | 25 | 0.05 727 | 9.87 624 | 11 | 46 | 5 | 13.0 | 12.5 | 7.5 |
| 15 | 9.81 911 | 14 | 9.94 299 | 26 | 0.05 701 | 9.87 613 | 11 | 45 | 6 | 15.6 | 15.0 | 9.0 |
| 16 | 9.81 926 | 15 | 9.94 324 | 25 | 0.05 676 | 9.87 601 | 12 | 44 | 7 | 18.2 | 17.5 | 10.5 |
| 17 | 9.81 940 | 14 | 9.94 350 | 26 | 0.05 650 | 9.87 590 | 11 | 43 | 8 | 20.8 | 20.0 | 12.0 |
| 18 | 9.81 955 | 15 | 9.94 375 | 25 | 0.05 625 | 9.87 579 | 11 | 42 | 9 | 23.4 | 22.5 | 13.5 |
| 19 | 9.81 969 | 14 | 9.94 401 | 26 | 0.05 599 | 9.87 568 | 11 | 41 | | | | |
| 20 | 9.81 983 | 15 | 9.94 426 | 25 | 0.05 574 | 9.87 557 | 11 | 40 | | | | |
| 21 | 9.81 998 | 14 | 9.94 452 | 26 | 0.05 548 | 9.87 546 | 11 | 39 | | | | |
| 22 | 9.82 012 | 15 | 9.94 477 | 25 | 0.05 523 | 9.87 535 | 11 | 38 | 14 | 12 | 11 | |
| 23 | 9.82 026 | 14 | 9.94 503 | 26 | 0.05 497 | 9.87 524 | 11 | 37 | 2 | 2.8 | 2.4 | 2.2 |
| 24 | 9.82 041 | 15 | 9.94 528 | 25 | 0.05 472 | 9.87 513 | 11 | 36 | 3 | 4.2 | 3.6 | 3.3 |
| 25 | 9.82 055 | 14 | 9.94 554 | 26 | 0.05 446 | 9.87 501 | 12 | 35 | 4 | 5.6 | 4.8 | 4.4 |
| 26 | 9.82 069 | 15 | 9.94 579 | 25 | 0.05 421 | 9.87 490 | 11 | 34 | 5 | 7.0 | 6.0 | 5.5 |
| 27 | 9.82 084 | 14 | 9.94 604 | 26 | 0.05 396 | 9.87 479 | 11 | 33 | 6 | 8.4 | 7.2 | 6.6 |
| 28 | 9.82 098 | 15 | 9.94 630 | 25 | 0.05 370 | 9.87 468 | 11 | 32 | 7 | 9.8 | 8.4 | 7.7 |
| 29 | 9.82 112 | 14 | 9.94 655 | 26 | 0.05 345 | 9.87 457 | 11 | 31 | 8 | 11.2 | 9.6 | 8.8 |
| 30 | 9.82 126 | 15 | 9.94 681 | 25 | 0.05 319 | 9.87 446 | 11 | 30 | 9 | 12.6 | 10.8 | 9.9 |
| 31 | 9.82 141 | 14 | 9.94 706 | 26 | 0.05 294 | 9.87 434 | 12 | 29 | | | | |
| 32 | 9.82 155 | 15 | 9.94 732 | 25 | 0.05 268 | 9.87 423 | 11 | 28 | | | | |
| 33 | 9.82 169 | 14 | 9.94 757 | 26 | 0.05 243 | 9.87 412 | 11 | 27 | | | | |
| 34 | 9.82 184 | 15 | 9.94 783 | 25 | 0.05 217 | 9.87 401 | 11 | 26 | | | | |
| 35 | 9.82 198 | 14 | 9.94 808 | 26 | 0.05 192 | 9.87 390 | 12 | 25 | | | | |
| 36 | 9.82 212 | 15 | 9.94 834 | 25 | 0.05 166 | 9.87 378 | 11 | 24 | | | | |
| 37 | 9.82 226 | 14 | 9.94 859 | 26 | 0.05 141 | 9.87 367 | 11 | 23 | | | | |
| 38 | 9.82 240 | 15 | 9.94 884 | 25 | 0.05 116 | 9.87 356 | 11 | 22 | | | | |
| 39 | 9.82 255 | 14 | 9.94 910 | 26 | 0.05 090 | 9.87 345 | 11 | 21 | | | | |
| 40 | 9.82 269 | 15 | 9.94 935 | 25 | 0.05 065 | 9.87 334 | 12 | 20 | | | | |
| 41 | 9.82 283 | 14 | 9.94 961 | 26 | 0.05 039 | 9.87 322 | 11 | 19 | | | | |
| 42 | 9.82 297 | 15 | 9.94 986 | 25 | 0.05 014 | 9.87 311 | 11 | 18 | | | | |
| 43 | 9.82 311 | 14 | 9.95 012 | 26 | 0.04 988 | 9.87 300 | 11 | 17 | | | | |
| 44 | 9.82 326 | 15 | 9.95 037 | 25 | 0.04 963 | 9.87 288 | 12 | 16 | | | | |
| 45 | 9.82 340 | 14 | 9.95 062 | 26 | 0.04 938 | 9.87 277 | 11 | 15 | | | | |
| 46 | 9.82 354 | 15 | 9.95 088 | 25 | 0.04 912 | 9.87 266 | 11 | 14 | | | | |
| 47 | 9.82 368 | 14 | 9.95 113 | 26 | 0.04 887 | 9.87 255 | 12 | 13 | | | | |
| 48 | 9.82 382 | 15 | 9.95 139 | 25 | 0.04 861 | 9.87 243 | 11 | 12 | | | | |
| 49 | 9.82 396 | 14 | 9.95 164 | 26 | 0.04 836 | 9.87 232 | 11 | 11 | | | | |
| 50 | 9.82 410 | 15 | 9.95 190 | 25 | 0.04 810 | 9.87 221 | 12 | 10 | | | | |
| 51 | 9.82 424 | 14 | 9.95 215 | 26 | 0.04 785 | 9.87 209 | 11 | 9 | | | | |
| 52 | 9.82 439 | 15 | 9.95 240 | 25 | 0.04 760 | 9.87 198 | 11 | 8 | | | | |
| 53 | 9.82 453 | 14 | 9.95 266 | 26 | 0.04 734 | 9.87 187 | 12 | 7 | | | | |
| 54 | 9.82 467 | 15 | 9.95 291 | 25 | 0.04 709 | 9.87 175 | 11 | 6 | | | | |
| 55 | 9.82 481 | 14 | 9.95 317 | 26 | 0.04 683 | 9.87 164 | 11 | 5 | | | | |
| 56 | 9.82 495 | 15 | 9.95 342 | 25 | 0.04 658 | 9.87 153 | 12 | 4 | | | | |
| 57 | 9.82 509 | 14 | 9.95 368 | 26 | 0.04 632 | 9.87 141 | 11 | 3 | | | | |
| 58 | 9.82 523 | 15 | 9.95 393 | 25 | 0.04 607 | 9.87 130 | 11 | 2 | | | | |
| 59 | 9.82 537 | 14 | 9.95 418 | 26 | 0.04 582 | 9.87 119 | 12 | 1 | | | | |
| 60 | 9.82 551 | | 9.95 444 | | 0.04 556 | 9.87 107 | | 0 | | | | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | d | | Prop. Pts. | | | |

From the top :

For 41°+ or 221°+,
read as printed; for
131°+ or 311°+, read
co-function.

From the bottom :

For 48°+ or 228°+,
read as printed; for
138°+ or 318°+, read
co-function.

| / | L Sin | d | L Tan | c d | L Ctn | L Cos | d | | Prop. Pts. |
|----|----------|----|----------|-----|----------|----------|----|----|------------------|
| 0 | 9.82 551 | | 9.95 444 | | 0.04 556 | 9.87 107 | | 60 | |
| 1 | 9.82 565 | 14 | 9.95 469 | 25 | 0.04 531 | 9.87 096 | 11 | 59 | |
| 2 | 9.82 579 | 14 | 9.95 495 | 25 | 0.04 505 | 9.87 085 | 11 | 58 | |
| 3 | 9.82 593 | 14 | 9.95 520 | 25 | 0.04 480 | 9.87 073 | 12 | 57 | |
| 4 | 9.82 607 | 14 | 9.95 545 | 25 | 0.04 455 | 9.87 062 | 11 | 56 | |
| 5 | 9.82 621 | 14 | 9.95 571 | 25 | 0.04 429 | 9.87 050 | 12 | 55 | |
| 6 | 9.82 635 | 14 | 9.95 596 | 25 | 0.04 404 | 9.87 039 | 11 | 54 | |
| 7 | 9.82 649 | 14 | 9.95 622 | 26 | 0.04 378 | 9.87 028 | 11 | 53 | |
| 8 | 9.82 663 | 14 | 9.95 647 | 25 | 0.04 353 | 9.87 016 | 12 | 52 | |
| 9 | 9.82 677 | 14 | 9.95 672 | 25 | 0.04 328 | 9.87 005 | 11 | 51 | |
| 10 | 9.82 691 | 14 | 9.95 698 | 26 | 0.04 302 | 9.86 993 | 12 | 50 | 26 25 14 |
| 11 | 9.82 705 | 14 | 9.95 723 | 25 | 0.04 277 | 9.86 982 | 11 | 49 | 2 5.2 5.0 2.8 |
| 12 | 9.82 719 | 14 | 9.95 748 | 25 | 0.04 252 | 9.86 970 | 12 | 48 | 3 7.8 7.5 4.2 |
| 13 | 9.82 733 | 14 | 9.95 774 | 26 | 0.04 226 | 9.86 959 | 11 | 47 | 4 10.4 10.0 5.6 |
| 14 | 9.82 747 | 14 | 9.95 799 | 25 | 0.04 201 | 9.86 947 | 12 | 46 | 5 13.0 12.5 7.0 |
| 15 | 9.82 761 | 14 | 9.95 825 | 26 | 0.04 175 | 9.86 936 | 11 | 45 | 6 15.6 15.0 8.4 |
| 16 | 9.82 775 | 13 | 9.95 850 | 25 | 0.04 150 | 9.86 924 | 12 | 44 | 7 18.2 17.5 9.8 |
| 17 | 9.82 788 | 14 | 9.95 875 | 25 | 0.04 125 | 9.86 913 | 11 | 43 | 8 20.8 20.0 11.2 |
| 18 | 9.82 802 | 14 | 9.95 901 | 26 | 0.04 099 | 9.86 902 | 12 | 42 | 9 23.4 22.5 12.6 |
| 19 | 9.82 816 | 14 | 9.95 926 | 25 | 0.04 074 | 9.86 890 | 11 | 41 | |
| 20 | 9.82 830 | 14 | 9.95 952 | 26 | 0.04 048 | 9.86 879 | 12 | 40 | |
| 21 | 9.82 844 | 14 | 9.95 977 | 25 | 0.04 023 | 9.86 867 | 11 | 39 | |
| 22 | 9.82 858 | 14 | 9.96 002 | 25 | 0.03 998 | 9.86 855 | 12 | 38 | |
| 23 | 9.82 872 | 14 | 9.96 028 | 26 | 0.03 972 | 9.86 844 | 11 | 37 | 13 12 11 |
| 24 | 9.82 885 | 13 | 9.96 053 | 25 | 0.03 947 | 9.86 832 | 12 | 36 | 2 2.6 2.4 2.2 |
| 25 | 9.82 899 | 14 | 9.96 078 | 25 | 0.03 922 | 9.86 821 | 11 | 35 | 3 3.9 3.6 3.3 |
| 26 | 9.82 913 | 14 | 9.96 104 | 26 | 0.03 896 | 9.86 809 | 12 | 34 | 4 5.2 4.8 4.4 |
| 27 | 9.82 927 | 14 | 9.96 129 | 25 | 0.03 871 | 9.86 798 | 11 | 33 | 5 6.5 6.0 5.5 |
| 28 | 9.82 941 | 14 | 9.96 155 | 26 | 0.03 845 | 9.86 786 | 12 | 32 | 6 7.8 7.2 6.6 |
| 29 | 9.82 955 | 13 | 9.96 180 | 25 | 0.03 820 | 9.86 775 | 11 | 31 | 7 9.1 8.4 7.7 |
| 30 | 9.82 968 | 14 | 9.96 205 | 25 | 0.03 795 | 9.86 763 | 12 | 30 | 8 10.4 9.6 8.8 |
| 31 | 9.82 982 | 14 | 9.96 231 | 26 | 0.03 769 | 9.86 752 | 11 | 29 | 9 11.7 10.8 9.9 |
| 32 | 9.82 996 | 14 | 9.96 256 | 25 | 0.03 744 | 9.86 740 | 12 | 28 | |
| 33 | 9.83 010 | 14 | 9.96 281 | 25 | 0.03 719 | 9.86 728 | 11 | 27 | |
| 34 | 9.83 023 | 13 | 9.96 307 | 26 | 0.03 693 | 9.86 717 | 12 | 26 | |
| 35 | 9.83 037 | 14 | 9.96 332 | 25 | 0.03 668 | 9.86 705 | 11 | 25 | |
| 36 | 9.83 051 | 14 | 9.96 357 | 25 | 0.03 643 | 9.86 694 | 12 | 24 | |
| 37 | 9.83 065 | 14 | 9.96 383 | 26 | 0.03 617 | 9.86 682 | 11 | 23 | |
| 38 | 9.83 078 | 13 | 9.96 408 | 25 | 0.03 592 | 9.86 670 | 12 | 22 | |
| 39 | 9.83 092 | 14 | 9.96 433 | 25 | 0.03 567 | 9.86 659 | 11 | 21 | |
| 40 | 9.83 106 | 14 | 9.96 459 | 26 | 0.03 541 | 9.86 647 | 12 | 20 | |
| 41 | 9.83 120 | 14 | 9.96 484 | 25 | 0.03 516 | 9.86 635 | 11 | 19 | |
| 42 | 9.83 133 | 13 | 9.96 510 | 26 | 0.03 490 | 9.86 624 | 12 | 18 | |
| 43 | 9.83 147 | 14 | 9.96 535 | 25 | 0.03 465 | 9.86 612 | 11 | 17 | |
| 44 | 9.83 161 | 14 | 9.96 560 | 25 | 0.03 440 | 9.86 600 | 12 | 16 | |
| 45 | 9.83 174 | 13 | 9.96 586 | 26 | 0.03 414 | 9.86 589 | 11 | 15 | |
| 46 | 9.83 188 | 14 | 9.96 611 | 25 | 0.03 389 | 9.86 577 | 12 | 14 | |
| 47 | 9.83 202 | 14 | 9.96 636 | 25 | 0.03 364 | 9.86 565 | 11 | 13 | |
| 48 | 9.83 215 | 13 | 9.96 662 | 26 | 0.03 338 | 9.86 554 | 12 | 12 | |
| 49 | 9.83 229 | 14 | 9.96 687 | 25 | 0.03 313 | 9.86 542 | 11 | 11 | |
| 50 | 9.83 242 | 13 | 9.96 712 | 25 | 0.03 288 | 9.86 530 | 12 | 10 | |
| 51 | 9.83 256 | 14 | 9.96 738 | 26 | 0.03 262 | 9.86 518 | 11 | 9 | |
| 52 | 9.83 270 | 14 | 9.96 763 | 25 | 0.03 237 | 9.86 507 | 12 | 8 | |
| 53 | 9.83 283 | 13 | 9.96 788 | 25 | 0.03 212 | 9.86 495 | 11 | 7 | |
| 54 | 9.83 297 | 14 | 9.96 814 | 26 | 0.03 186 | 9.86 483 | 12 | 6 | |
| 55 | 9.83 310 | 13 | 9.96 839 | 25 | 0.03 161 | 9.86 472 | 11 | 5 | |
| 56 | 9.83 324 | 14 | 9.96 864 | 25 | 0.03 136 | 9.86 460 | 12 | 4 | |
| 57 | 9.83 338 | 14 | 9.96 890 | 26 | 0.03 110 | 9.86 448 | 11 | 3 | |
| 58 | 9.83 351 | 13 | 9.96 915 | 25 | 0.03 085 | 9.86 436 | 12 | 2 | |
| 59 | 9.83 365 | 14 | 9.96 940 | 25 | 0.03 060 | 9.86 425 | 11 | 1 | |
| 60 | 9.83 378 | 13 | 9.96 966 | 26 | 0.03 034 | 9.86 413 | 12 | 0 | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | d | / | Prop. Pts. |

| ' | L Sin | d | L Tan | c d | L Ctn | L Cos | d | | Prop. Pts. |
|----|----------|----|----------|-----|----------|----------|----|-----------|--------------------------------|
| 0 | 9.83 378 | | 9.96 966 | | 0.03 034 | 9.86 413 | | 60 | |
| 1 | 9.83 392 | 14 | 9.96 991 | 25 | 0.03 009 | 9.86 401 | 12 | 59 | |
| 2 | 9.83 405 | 13 | 9.97 016 | 25 | 0.02 984 | 9.86 389 | 12 | 58 | |
| 3 | 9.83 419 | 14 | 9.97 042 | 26 | 0.02 958 | 9.86 377 | 12 | 57 | |
| 4 | 9.83 432 | 13 | 9.97 067 | 25 | 0.02 933 | 9.86 366 | 11 | 56 | |
| | | 14 | | 25 | | | 12 | | |
| 5 | 9.83 446 | | 9.97 092 | | 0.02 908 | 9.86 354 | | 55 | |
| 6 | 9.83 459 | 13 | 9.97 118 | 26 | 0.02 882 | 9.86 342 | 12 | 54 | |
| 7 | 9.83 473 | 14 | 9.97 143 | 25 | 0.02 857 | 9.86 330 | 12 | 53 | |
| 8 | 9.83 486 | 13 | 9.97 168 | 25 | 0.02 832 | 9.86 318 | 12 | 52 | |
| 9 | 9.83 500 | 14 | 9.97 193 | 25 | 0.02 807 | 9.86 306 | 12 | 51 | |
| | | 13 | | 26 | | | 11 | | |
| 10 | 9.83 513 | | 9.97 219 | | 0.02 781 | 9.86 295 | | 50 | 26 25 14 |
| 11 | 9.83 527 | 14 | 9.97 244 | 25 | 0.02 756 | 9.86 283 | 12 | 49 | 2 5.2 5.0 2.8 |
| 12 | 9.83 540 | 13 | 9.97 269 | 25 | 0.02 731 | 9.86 271 | 12 | 48 | 3 7.8 7.5 4.2 |
| 13 | 9.83 554 | 14 | 9.97 295 | 26 | 0.02 705 | 9.86 259 | 12 | 47 | 4 10.4 10.0 5.6 |
| 14 | 9.83 567 | 13 | 9.97 320 | 25 | 0.02 680 | 9.86 247 | 12 | 46 | 5 13.0 12.5 7.0 |
| | | 14 | | 25 | | | 12 | | |
| 15 | 9.83 581 | | 9.97 345 | | 0.02 655 | 9.86 235 | | 45 | 6 15.6 15.0 8.4 |
| 16 | 9.83 594 | 13 | 9.97 371 | 26 | 0.02 629 | 9.86 223 | 12 | 44 | 7 18.2 17.5 9.8 |
| 17 | 9.83 608 | 14 | 9.97 396 | 25 | 0.02 604 | 9.86 211 | 12 | 43 | 8 20.8 20.0 11.2 |
| 18 | 9.83 621 | 13 | 9.97 421 | 25 | 0.02 579 | 9.86 200 | 12 | 42 | 9 23.4 22.5 12.6 |
| 19 | 9.83 634 | 13 | 9.97 447 | 26 | 0.02 553 | 9.86 188 | 12 | 41 | |
| | | 14 | | 25 | | | 12 | | |
| 20 | 9.83 648 | | 9.97 472 | | 0.02 528 | 9.86 176 | | 40 | |
| 21 | 9.83 661 | 13 | 9.97 497 | 25 | 0.02 503 | 9.86 164 | 12 | 39 | |
| 22 | 9.83 674 | 13 | 9.97 523 | 26 | 0.02 477 | 9.86 152 | 12 | 38 | |
| 23 | 9.83 688 | 14 | 9.97 548 | 25 | 0.02 452 | 9.86 140 | 12 | 37 | 13 12 11 |
| 24 | 9.83 701 | 13 | 9.97 573 | 25 | 0.02 427 | 9.86 128 | 12 | 36 | 2 2.6 2.4 2.2 |
| | | 14 | | 25 | | | 12 | | |
| 25 | 9.83 715 | | 9.97 598 | | 0.02 402 | 9.86 116 | | 35 | 3 3.9 3.6 3.3 |
| 26 | 9.83 728 | 13 | 9.97 624 | 26 | 0.02 376 | 9.86 104 | 12 | 34 | 4 5.2 4.8 4.4 |
| 27 | 9.83 741 | 13 | 9.97 649 | 25 | 0.02 351 | 9.86 092 | 12 | 33 | 5 6.5 6.0 5.5 |
| 28 | 9.83 755 | 14 | 9.97 674 | 25 | 0.02 326 | 9.86 080 | 12 | 32 | 6 7.8 7.2 6.6 |
| 29 | 9.83 768 | 13 | 9.97 700 | 26 | 0.02 300 | 9.86 068 | 12 | 31 | 7 9.1 8.4 7.7 |
| | | 13 | | 25 | | | 12 | | |
| 30 | 9.83 781 | | 9.97 725 | | 0.02 275 | 9.86 056 | | 30 | 8 10.4 9.6 8.8 |
| 31 | 9.83 795 | 14 | 9.97 750 | 25 | 0.02 250 | 9.86 044 | 12 | 29 | 9 11.7 10.8 9.9 |
| 32 | 9.83 808 | 13 | 9.97 776 | 26 | 0.02 224 | 9.86 032 | 12 | 28 | |
| 33 | 9.83 821 | 13 | 9.97 801 | 25 | 0.02 199 | 9.86 020 | 12 | 27 | |
| 34 | 9.83 834 | 13 | 9.97 826 | 25 | 0.02 174 | 9.86 008 | 12 | 26 | |
| | | 14 | | 25 | | | 12 | | |
| 35 | 9.83 848 | | 9.97 851 | | 0.02 149 | 9.85 996 | | 25 | |
| 36 | 9.83 861 | 13 | 9.97 877 | 26 | 0.02 123 | 9.85 984 | 12 | 24 | |
| 37 | 9.83 874 | 13 | 9.97 902 | 25 | 0.02 098 | 9.85 972 | 12 | 23 | <i>From the top :</i> |
| 38 | 9.83 887 | 13 | 9.97 927 | 25 | 0.02 073 | 9.85 960 | 12 | 22 | For 43°+ or 223°+, |
| 39 | 9.83 901 | 14 | 9.97 953 | 26 | 0.02 047 | 9.85 948 | 12 | 21 | read as printed; for |
| | | 13 | | 25 | | | 12 | | 19 133°+ or 313°+, read |
| 40 | 9.83 914 | | 9.97 978 | | 0.02 022 | 9.85 936 | | 20 | co-function. |
| 41 | 9.83 927 | 13 | 9.98 003 | 25 | 0.01 997 | 9.85 924 | 12 | 19 | |
| 42 | 9.83 940 | 13 | 9.98 029 | 26 | 0.01 971 | 9.85 912 | 12 | 18 | |
| 43 | 9.83 954 | 14 | 9.98 054 | 25 | 0.01 946 | 9.85 900 | 12 | 17 | |
| 44 | 9.83 967 | 13 | 9.98 079 | 25 | 0.01 921 | 9.85 888 | 12 | 16 | |
| | | 13 | | 25 | | | 12 | | |
| 45 | 9.83 980 | | 9.98 104 | | 0.01 896 | 9.85 876 | | 15 | <i>From the bottom :</i> |
| 46 | 9.83 993 | 13 | 9.98 130 | 26 | 0.01 870 | 9.85 864 | 12 | 14 | For 46°+ or 226°+, |
| 47 | 9.84 006 | 13 | 9.98 155 | 25 | 0.01 845 | 9.85 851 | 13 | 13 | read as printed; for |
| 48 | 9.84 020 | 14 | 9.98 180 | 25 | 0.01 820 | 9.85 839 | 12 | 12 | 136°+ or 316°+, read |
| 49 | 9.84 033 | 13 | 9.98 206 | 26 | 0.01 794 | 9.85 827 | 12 | 11 | co-function. |
| | | 13 | | 25 | | | 12 | | |
| 50 | 9.84 046 | | 9.98 231 | | 0.01 769 | 9.85 815 | | 10 | |
| 51 | 9.84 059 | 13 | 9.98 256 | 25 | 0.01 744 | 9.85 803 | 12 | 9 | |
| 52 | 9.84 072 | 13 | 9.98 281 | 25 | 0.01 719 | 9.85 791 | 12 | 8 | |
| 53 | 9.84 085 | 13 | 9.98 307 | 26 | 0.01 693 | 9.85 779 | 12 | 7 | |
| 54 | 9.84 098 | 13 | 9.98 332 | 25 | 0.01 668 | 9.85 766 | 13 | 6 | |
| | | 14 | | 25 | | | 12 | | |
| 55 | 9.84 112 | | 9.98 357 | | 0.01 643 | 9.85 754 | | 5 | |
| 56 | 9.84 125 | 13 | 9.98 383 | 26 | 0.01 617 | 9.85 742 | 12 | 4 | |
| 57 | 9.84 138 | 13 | 9.98 408 | 25 | 0.01 592 | 9.85 730 | 12 | 3 | |
| 58 | 9.84 151 | 13 | 9.98 433 | 25 | 0.01 567 | 9.85 718 | 12 | 2 | |
| 59 | 9.84 164 | 13 | 9.98 458 | 25 | 0.01 542 | 9.85 706 | 12 | 1 | |
| | | 13 | | 26 | | | 13 | | |
| 60 | 9.84 177 | | 9.98 484 | | 0.01 516 | 9.85 693 | | 0 | |
| | L Cos | d | L Ctn | c d | L Tan | L Sin | d | ' | Prop. Pts. |

| <i>i</i> | L Sin | <i>d</i> | L Tan | <i>c d</i> | L Ctn | L Cos | <i>d</i> | | Prop. Pts. |
|----------|----------|----------|----------|------------|----------|----------|----------|----------|------------|
| 0 | 9.84 177 | | 9.98 484 | | 0.01 516 | 9.85 693 | | 60 | |
| 1 | 9.84 190 | 13 | 9.98 509 | 25 | 0.01 491 | 9.85 681 | 12 | 59 | |
| 2 | 9.84 203 | 13 | 9.98 534 | 25 | 0.01 466 | 9.85 669 | 12 | 58 | |
| 3 | 9.84 216 | 13 | 9.98 560 | 26 | 0.01 440 | 9.85 657 | 12 | 57 | |
| 4 | 9.84 229 | 13 | 9.98 585 | 25 | 0.01 415 | 9.85 645 | 12 | 56 | |
| | | 13 | | 25 | | | 13 | | |
| 5 | 9.84 242 | 13 | 9.98 610 | 25 | 0.01 390 | 9.85 632 | 12 | 55 | |
| 6 | 9.84 255 | 13 | 9.98 635 | 25 | 0.01 365 | 9.85 620 | 12 | 54 | |
| 7 | 9.84 269 | 14 | 9.98 661 | 26 | 0.01 339 | 9.85 608 | 12 | 53 | |
| 8 | 9.84 282 | 13 | 9.98 686 | 25 | 0.01 314 | 9.85 596 | 12 | 52 | |
| 9 | 9.84 295 | 13 | 9.98 711 | 25 | 0.01 289 | 9.85 583 | 13 | 51 | |
| | | 13 | | 26 | | | 12 | | |
| 10 | 9.84 308 | 13 | 9.98 737 | 25 | 0.01 263 | 9.85 571 | 12 | 50 | |
| 11 | 9.84 321 | 13 | 9.98 762 | 25 | 0.01 238 | 9.85 559 | 12 | 49 | |
| 12 | 9.84 334 | 13 | 9.98 787 | 25 | 0.01 213 | 9.85 547 | 12 | 48 | |
| 13 | 9.84 347 | 13 | 9.98 812 | 25 | 0.01 188 | 9.85 534 | 13 | 47 | |
| 14 | 9.84 360 | 13 | 9.98 838 | 26 | 0.01 162 | 9.85 522 | 12 | 46 | |
| | | 13 | | 25 | | | 12 | | |
| 15 | 9.84 373 | 12 | 9.98 863 | 25 | 0.01 137 | 9.85 510 | 13 | 45 | |
| 16 | 9.84 385 | 13 | 9.98 888 | 25 | 0.01 112 | 9.85 497 | 12 | 44 | |
| 17 | 9.84 398 | 13 | 9.98 913 | 25 | 0.01 087 | 9.85 485 | 12 | 43 | |
| 18 | 9.84 411 | 13 | 9.98 939 | 26 | 0.01 061 | 9.85 473 | 12 | 42 | |
| 19 | 9.84 424 | 13 | 9.98 964 | 25 | 0.01 036 | 9.85 460 | 13 | 41 | |
| | | 13 | | 25 | | | 12 | | |
| 20 | 9.84 437 | 13 | 9.98 989 | 26 | 0.01 011 | 9.85 448 | 12 | 40 | |
| 21 | 9.84 450 | 13 | 9.99 015 | 26 | 0.00 985 | 9.85 436 | 12 | 39 | |
| 22 | 9.84 463 | 13 | 9.99 040 | 25 | 0.00 960 | 9.85 423 | 13 | 38 | |
| 23 | 9.84 476 | 13 | 9.99 065 | 25 | 0.00 935 | 9.85 411 | 12 | 37 | |
| 24 | 9.84 489 | 13 | 9.99 090 | 25 | 0.00 910 | 9.85 399 | 12 | 36 | |
| | | 13 | | 26 | | | 13 | | |
| 25 | 9.84 502 | 13 | 9.99 116 | 25 | 0.00 884 | 9.85 386 | 12 | 35 | |
| 26 | 9.84 515 | 13 | 9.99 141 | 25 | 0.00 859 | 9.85 374 | 12 | 34 | |
| 27 | 9.84 528 | 13 | 9.99 166 | 25 | 0.00 834 | 9.85 361 | 13 | 33 | |
| 28 | 9.84 540 | 12 | 9.99 191 | 25 | 0.00 809 | 9.85 349 | 12 | 32 | |
| 29 | 9.84 553 | 13 | 9.99 217 | 26 | 0.00 783 | 9.85 337 | 12 | 31 | |
| | | 13 | | 25 | | | 13 | | |
| 30 | 9.84 566 | 13 | 9.99 242 | 25 | 0.00 758 | 9.85 324 | 12 | 30 | |
| 31 | 9.84 579 | 13 | 9.99 267 | 25 | 0.00 733 | 9.85 312 | 12 | 29 | |
| 32 | 9.84 592 | 13 | 9.99 293 | 26 | 0.00 707 | 9.85 299 | 13 | 28 | |
| 33 | 9.84 605 | 13 | 9.99 318 | 25 | 0.00 682 | 9.85 287 | 12 | 27 | |
| 34 | 9.84 618 | 13 | 9.99 343 | 25 | 0.00 657 | 9.85 274 | 13 | 26 | |
| | | 12 | | 25 | | | 12 | | |
| 35 | 9.84 630 | 13 | 9.99 368 | 26 | 0.00 632 | 9.85 262 | 12 | 25 | |
| 36 | 9.84 643 | 13 | 9.99 394 | 26 | 0.00 606 | 9.85 250 | 13 | 24 | |
| 37 | 9.84 656 | 13 | 9.99 419 | 25 | 0.00 581 | 9.85 237 | 12 | 23 | |
| 38 | 9.84 669 | 13 | 9.99 444 | 25 | 0.00 556 | 9.85 225 | 12 | 22 | |
| 39 | 9.84 682 | 12 | 9.99 469 | 25 | 0.00 531 | 9.85 212 | 13 | 21 | |
| | | 12 | | 26 | | | 12 | | |
| 40 | 9.84 694 | 13 | 9.99 495 | 25 | 0.00 505 | 9.85 200 | 13 | 20 | |
| 41 | 9.84 707 | 13 | 9.99 520 | 25 | 0.00 480 | 9.85 187 | 12 | 19 | |
| 42 | 9.84 720 | 13 | 9.99 545 | 25 | 0.00 455 | 9.85 175 | 12 | 18 | |
| 43 | 9.84 733 | 13 | 9.99 570 | 25 | 0.00 430 | 9.85 162 | 13 | 17 | |
| 44 | 9.84 745 | 12 | 9.99 596 | 26 | 0.00 404 | 9.85 150 | 12 | 16 | |
| | | 13 | | 25 | | | 13 | | |
| 45 | 9.84 758 | 13 | 9.99 621 | 25 | 0.00 379 | 9.85 137 | 12 | 15 | |
| 46 | 9.84 771 | 13 | 9.99 646 | 25 | 0.00 354 | 9.85 125 | 12 | 14 | |
| 47 | 9.84 784 | 13 | 9.99 672 | 26 | 0.00 328 | 9.85 112 | 13 | 13 | |
| 48 | 9.84 796 | 12 | 9.99 697 | 25 | 0.00 303 | 9.85 100 | 12 | 12 | |
| 49 | 9.84 809 | 13 | 9.99 722 | 25 | 0.00 278 | 9.85 087 | 13 | 11 | |
| | | 13 | | 25 | | | 13 | | |
| 50 | 9.84 822 | 13 | 9.99 747 | 26 | 0.00 253 | 9.85 074 | 12 | 10 | |
| 51 | 9.84 835 | 12 | 9.99 773 | 25 | 0.00 227 | 9.85 062 | 12 | 9 | |
| 52 | 9.84 847 | 13 | 9.99 798 | 25 | 0.00 202 | 9.85 049 | 13 | 8 | |
| 53 | 9.84 860 | 13 | 9.99 823 | 25 | 0.00 177 | 9.85 037 | 12 | 7 | |
| 54 | 9.84 873 | 13 | 9.99 848 | 25 | 0.00 152 | 9.85 024 | 12 | 6 | |
| | | 12 | | 26 | | | 12 | | |
| 55 | 9.84 885 | 13 | 9.99 874 | 25 | 0.00 126 | 9.85 012 | 13 | 5 | |
| 56 | 9.84 898 | 13 | 9.99 899 | 25 | 0.00 101 | 9.84 999 | 13 | 4 | |
| 57 | 9.84 911 | 12 | 9.99 924 | 25 | 0.00 076 | 9.84 986 | 12 | 3 | |
| 58 | 9.84 923 | 13 | 9.99 949 | 26 | 0.00 051 | 9.84 974 | 12 | 2 | |
| 59 | 9.84 936 | 13 | 9.99 975 | 25 | 0.00 025 | 9.84 961 | 13 | 1 | |
| | | 13 | | 25 | | | 12 | | |
| 60 | 9.84 949 | | 0.00 000 | | 0.00 000 | 9 84 949 | | 0 | |
| | L Cos | <i>d</i> | L Ctn | <i>c d</i> | L Tan | L Sin | <i>d</i> | <i>i</i> | Prop. Pts. |

| | 26 | 25 | 14 |
|---|------|------|------|
| 2 | 5.2 | 5.0 | 2.8 |
| 3 | 7.8 | 7.5 | 4.2 |
| 4 | 10.4 | 10.0 | 5.6 |
| 5 | 13.0 | 12.5 | 7.0 |
| 6 | 15.6 | 15.0 | 8.4 |
| 7 | 18.2 | 17.5 | 9.8 |
| 8 | 20.8 | 20.0 | 11.2 |
| 9 | 23.4 | 22.5 | 12.6 |

| | 13 | 12 |
|---|------|------|
| 2 | 2.6 | 2.4 |
| 3 | 3.9 | 3.6 |
| 4 | 5.2 | 4.8 |
| 5 | 6.5 | 6.0 |
| 6 | 7.8 | 7.2 |
| 7 | 9.1 | 8.4 |
| 8 | 10.4 | 9.6 |
| 9 | 11.7 | 10.8 |

From the top :

For 44°+ or 224°+,
read as printed; for
134°+ or 314°+, read
co-function.

From the bottom :

For 45°+ or 225°+,
read as printed; for
135°+ or 315°+, read
co-function.

iv] Table IV—Degrees, Minutes, and Seconds to Radians 91

| Degrees | | | | Minutes | | Seconds | |
|---------|------------|-----|------------|---------|------------|---------|------------|
| 0° | 0.00000 00 | 60° | 1.04719 76 | 120° | 2.09439 51 | 0' | 0.00000 00 |
| 1 | 0.01745 33 | 61 | 1.06465 08 | 121 | 2.11184 84 | 1 | 0.00000 48 |
| 2 | 0.03490 66 | 62 | 1.08210 41 | 122 | 2.12930 17 | 2 | 0.00000 97 |
| 3 | 0.05235 99 | 63 | 1.09955 74 | 123 | 2.14675 50 | 3 | 0.00001 45 |
| 4 | 0.06981 32 | 64 | 1.11701 07 | 124 | 2.16420 83 | 4 | 0.00001 94 |
| 5 | 0.08726 65 | 65 | 1.13446 40 | 125 | 2.18166 16 | 5 | 0.00002 42 |
| 6 | 0.10471 98 | 66 | 1.15191 73 | 126 | 2.19911 49 | 6 | 0.00002 91 |
| 7 | 0.12217 30 | 67 | 1.16937 06 | 127 | 2.21656 82 | 7 | 0.00003 39 |
| 8 | 0.13962 63 | 68 | 1.18682 39 | 128 | 2.23402 14 | 8 | 0.00003 88 |
| 9 | 0.15707 96 | 69 | 1.20427 72 | 129 | 2.25147 47 | 9 | 0.00004 36 |
| 10 | 0.17453 29 | 70 | 1.22173 05 | 130 | 2.26892 80 | 10 | 0.00004 85 |
| 11 | 0.19198 62 | 71 | 1.23918 38 | 131 | 2.28638 13 | 11 | 0.00005 33 |
| 12 | 0.20943 95 | 72 | 1.25663 71 | 132 | 2.30383 46 | 12 | 0.00005 82 |
| 13 | 0.22689 28 | 73 | 1.27409 04 | 133 | 2.32128 79 | 13 | 0.00006 30 |
| 14 | 0.24434 61 | 74 | 1.29154 36 | 134 | 2.33874 12 | 14 | 0.00006 79 |
| 15 | 0.26179 94 | 75 | 1.30899 69 | 135 | 2.35619 45 | 15 | 0.00007 27 |
| 16 | 0.27925 27 | 76 | 1.32645 02 | 136 | 2.37364 78 | 16 | 0.00007 76 |
| 17 | 0.29670 60 | 77 | 1.34390 35 | 137 | 2.39110 11 | 17 | 0.00008 24 |
| 18 | 0.31415 93 | 78 | 1.36135 68 | 138 | 2.40855 44 | 18 | 0.00008 73 |
| 19 | 0.33161 26 | 79 | 1.37881 01 | 139 | 2.42600 77 | 19 | 0.00009 21 |
| 20 | 0.34906 59 | 80 | 1.39626 34 | 140 | 2.44346 10 | 20 | 0.00009 70 |
| 21 | 0.36651 91 | 81 | 1.41371 67 | 141 | 2.46091 42 | 21 | 0.00010 18 |
| 22 | 0.38397 24 | 82 | 1.43117 00 | 142 | 2.47836 75 | 22 | 0.00010 67 |
| 23 | 0.40142 57 | 83 | 1.44862 33 | 143 | 2.49582 08 | 23 | 0.00011 15 |
| 24 | 0.41887 90 | 84 | 1.46607 66 | 144 | 2.51327 41 | 24 | 0.00011 64 |
| 25 | 0.43633 23 | 85 | 1.48352 99 | 145 | 2.53072 74 | 25 | 0.00012 12 |
| 26 | 0.45378 56 | 86 | 1.50098 32 | 146 | 2.54818 07 | 26 | 0.00012 61 |
| 27 | 0.47123 89 | 87 | 1.51843 64 | 147 | 2.56563 40 | 27 | 0.00013 09 |
| 28 | 0.48869 22 | 88 | 1.53588 97 | 148 | 2.58308 73 | 28 | 0.00013 57 |
| 29 | 0.50614 55 | 89 | 1.55334 30 | 149 | 2.60054 06 | 29 | 0.00014 06 |
| 30 | 0.52359 88 | 90 | 1.57079 63 | 150 | 2.61799 39 | 30 | 0.00014 54 |
| 31 | 0.54105 21 | 91 | 1.58824 96 | 151 | 2.63544 72 | 31 | 0.00015 03 |
| 32 | 0.55850 54 | 92 | 1.60570 29 | 152 | 2.65290 05 | 32 | 0.00015 51 |
| 33 | 0.57595 87 | 93 | 1.62315 62 | 153 | 2.67035 38 | 33 | 0.00016 00 |
| 34 | 0.59341 19 | 94 | 1.64060 95 | 154 | 2.68780 70 | 34 | 0.00016 48 |
| 35 | 0.61086 52 | 95 | 1.65806 28 | 155 | 2.70526 03 | 35 | 0.00016 97 |
| 36 | 0.62831 85 | 96 | 1.67551 61 | 156 | 2.72271 36 | 36 | 0.00017 45 |
| 37 | 0.64577 18 | 97 | 1.69296 94 | 157 | 2.74016 69 | 37 | 0.00017 94 |
| 38 | 0.66322 51 | 98 | 1.71042 27 | 158 | 2.75762 02 | 38 | 0.00018 42 |
| 39 | 0.68067 84 | 99 | 1.72787 60 | 159 | 2.77507 35 | 39 | 0.00018 91 |
| 40 | 0.69813 17 | 100 | 1.74532 93 | 160 | 2.79252 68 | 40 | 0.00019 39 |
| 41 | 0.71558 50 | 101 | 1.76278 25 | 161 | 2.80998 01 | 41 | 0.00019 88 |
| 42 | 0.73303 83 | 102 | 1.78023 58 | 162 | 2.82743 34 | 42 | 0.00020 36 |
| 43 | 0.75049 16 | 103 | 1.79768 91 | 163 | 2.84488 67 | 43 | 0.00020 85 |
| 44 | 0.76794 49 | 104 | 1.81514 24 | 164 | 2.86234 00 | 44 | 0.00021 33 |
| 45 | 0.78539 82 | 105 | 1.83259 57 | 165 | 2.87979 33 | 45 | 0.00021 82 |
| 46 | 0.80285 15 | 106 | 1.85004 90 | 166 | 2.89724 66 | 46 | 0.00022 30 |
| 47 | 0.82030 47 | 107 | 1.86750 23 | 167 | 2.91469 99 | 47 | 0.00022 79 |
| 48 | 0.83775 80 | 108 | 1.88495 56 | 168 | 2.93215 31 | 48 | 0.00023 27 |
| 49 | 0.85521 13 | 109 | 1.90240 89 | 169 | 2.94960 64 | 49 | 0.00023 76 |
| 50 | 0.87266 46 | 110 | 1.91986 22 | 170 | 2.96705 97 | 50 | 0.00024 24 |
| 51 | 0.89011 79 | 111 | 1.93731 55 | 171 | 2.98451 30 | 51 | 0.00024 73 |
| 52 | 0.90757 12 | 112 | 1.95476 88 | 172 | 3.00196 63 | 52 | 0.00025 21 |
| 53 | 0.92502 45 | 113 | 1.97222 21 | 173 | 3.01941 96 | 53 | 0.00025 70 |
| 54 | 0.94247 78 | 114 | 1.98967 53 | 174 | 3.03687 29 | 54 | 0.00026 18 |
| 55 | 0.95993 11 | 115 | 2.00712 86 | 175 | 3.05432 62 | 55 | 0.00026 66 |
| 56 | 0.97738 44 | 116 | 2.02458 19 | 176 | 3.07177 95 | 56 | 0.00027 15 |
| 57 | 0.99483 77 | 117 | 2.04203 52 | 177 | 3.08923 28 | 57 | 0.00027 63 |
| 58 | 1.01229 10 | 118 | 2.05948 85 | 178 | 3.10668 61 | 58 | 0.00028 12 |
| 59 | 1.20974 43 | 119 | 2.07694 18 | 179 | 3.12413 94 | 59 | 0.00028 60 |
| 60 | 1.04719 76 | 120 | 2.09439 51 | 180 | 3.14159 27 | 60 | 0.00029 09 |

| x Radians | Sin x | Cos x | Tan x | Equivalent of x |
|-------------|---------|---------|---------|-------------------|
| .00 | .00000 | 1.0000 | .00000 | 0° 00'.0 |
| .01 | .01000 | .99995 | .01000 | 0° 34'.4 |
| .02 | .02000 | .99980 | .02000 | 1° 08'.8 |
| .03 | .03000 | .99955 | .03001 | 1° 43'.1 |
| .04 | .03999 | .99920 | .04002 | 2° 17'.5 |
| .05 | .04998 | .99875 | .05004 | 2° 51'.9 |
| .06 | .05996 | .99820 | .06007 | 3° 26'.3 |
| .07 | .06994 | .99755 | .07011 | 4° 00'.6 |
| .08 | .07991 | .99680 | .08017 | 4° 35'.0 |
| .09 | .08988 | .99595 | .09024 | 5° 09'.4 |
| .10 | .09983 | .99500 | .10033 | 5° 43'.8 |
| .11 | .10978 | .99396 | .11045 | 6° 18'.2 |
| .12 | .11971 | .99281 | .12058 | 6° 52'.5 |
| .13 | .12963 | .99156 | .13074 | 7° 26'.9 |
| .14 | .13954 | .99022 | .14092 | 8° 01'.3 |
| .15 | .14944 | .98877 | .15114 | 8° 35'.7 |
| .16 | .15932 | .98723 | .16138 | 9° 10'.0 |
| .17 | .16918 | .98558 | .17166 | 9° 44'.4 |
| .18 | .17903 | .98384 | .18197 | 10° 18'.8 |
| .19 | .18886 | .98200 | .19232 | 10° 53'.2 |
| .20 | .19867 | .98007 | .20271 | 11° 27'.5 |
| .21 | .20846 | .97803 | .21314 | 12° 01'.9 |
| .22 | .21823 | .97590 | .22362 | 12° 36'.3 |
| .23 | .22798 | .97367 | .23414 | 13° 10'.7 |
| .24 | .23770 | .97134 | .24472 | 13° 45'.1 |
| .25 | .24740 | .96891 | .25534 | 14° 19'.4 |
| .26 | .25708 | .96639 | .26602 | 14° 53'.8 |
| .27 | .26673 | .96377 | .27676 | 15° 28'.2 |
| .28 | .27636 | .96106 | .28755 | 16° 02'.6 |
| .29 | .28595 | .95824 | .29841 | 16° 36'.9 |
| .30 | .29552 | .95534 | .30934 | 17° 11'.3 |
| .31 | .30506 | .95233 | .32033 | 17° 45'.7 |
| .32 | .31457 | .94924 | .33139 | 18° 20'.1 |
| .33 | .32404 | .94604 | .34252 | 18° 54'.5 |
| .34 | .33349 | .94275 | .35374 | 19° 28'.8 |
| .35 | .34290 | .93937 | .36503 | 20° 03'.2 |
| .36 | .35227 | .93590 | .37640 | 20° 37'.6 |
| .37 | .36162 | .93233 | .38786 | 21° 12'.0 |
| .38 | .37092 | .92866 | .39941 | 21° 46'.3 |
| .39 | .38019 | .92491 | .41106 | 22° 20'.7 |
| .40 | .38942 | .92106 | .42279 | 22° 55'.1 |
| .41 | .39861 | .91712 | .43463 | 23° 29'.5 |
| .42 | .40776 | .91309 | .44657 | 24° 03'.9 |
| .43 | .41687 | .90897 | .45862 | 24° 38'.2 |
| .44 | .42594 | .90475 | .47078 | 25° 12'.6 |
| .45 | .43497 | .90045 | .48305 | 25° 47'.0 |
| .46 | .44395 | .89605 | .49545 | 26° 21'.4 |
| .47 | .45289 | .89157 | .50795 | 26° 55'.7 |
| .48 | .46178 | .88699 | .52061 | 27° 30'.1 |
| .49 | .47063 | .88233 | .53339 | 28° 04'.5 |
| .50 | .47943 | .87758 | .54630 | 28° 38'.9 |

| x Radians | Sin x | Cos x | Tan x | Equivalent of x |
|-------------|---------|---------|---------|-------------------|
| .50 | .47943 | .87758 | .54630 | 28° 38'.9 |
| .51 | .48818 | .87274 | .55936 | 29° 13'.3 |
| .52 | .49688 | .86782 | .57256 | 29° 47'.6 |
| .53 | .50553 | .86281 | .58592 | 30° 22'.0 |
| .54 | .51414 | .85771 | .59943 | 30° 56'.4 |
| .55 | .52269 | .85252 | .61311 | 31° 30'.8 |
| .56 | .53119 | .84726 | .62695 | 32° 05'.1 |
| .57 | .53963 | .84190 | .64097 | 32° 39'.5 |
| .58 | .54802 | .83646 | .65517 | 33° 13'.9 |
| .59 | .55636 | .83094 | .66956 | 33° 48'.3 |
| .60 | .56464 | .82534 | .68414 | 34° 22'.6 |
| .61 | .57287 | .81965 | .69892 | 34° 57'.0 |
| .62 | .58104 | .81388 | .71391 | 35° 31'.4 |
| .63 | .58914 | .80803 | .72911 | 36° 05'.8 |
| .64 | .59720 | .80210 | .74454 | 36° 40'.2 |
| .65 | .60519 | .79608 | .76020 | 37° 14'.5 |
| .66 | .61312 | .78999 | .77610 | 37° 48'.9 |
| .67 | .62099 | .78382 | .79225 | 38° 23'.3 |
| .68 | .62879 | .77757 | .80866 | 38° 57'.7 |
| .69 | .63654 | .77125 | .82533 | 39° 32'.0 |
| .70 | .64422 | .76484 | .84229 | 40° 06'.4 |
| .71 | .65183 | .75836 | .85953 | 40° 40'.8 |
| .72 | .65938 | .75181 | .87707 | 41° 15'.2 |
| .73 | .66687 | .74517 | .89492 | 41° 49'.6 |
| .74 | .67429 | .73847 | .91309 | 42° 23'.9 |
| .75 | .68164 | .73169 | .93160 | 42° 58'.3 |
| .76 | .68892 | .72484 | .95055 | 43° 32'.7 |
| .77 | .69614 | .71791 | .96967 | 44° 07'.1 |
| .78 | .70328 | .71091 | .98926 | 44° 41'.4 |
| .79 | .71035 | .70385 | 1.0092 | 45° 15'.8 |
| .80 | .71736 | .69671 | 1.0296 | 45° 50'.2 |
| .81 | .72429 | .68950 | 1.0505 | 46° 24'.6 |
| .82 | .73115 | .68222 | 1.0717 | 46° 59'.0 |
| .83 | .73793 | .67488 | 1.0934 | 47° 33'.3 |
| .84 | .74464 | .66746 | 1.1156 | 48° 07'.7 |
| .85 | .75128 | .65998 | 1.1383 | 48° 42'.1 |
| .86 | .75784 | .65244 | 1.1616 | 49° 16'.5 |
| .87 | .76433 | .64483 | 1.1853 | 49° 50'.8 |
| .88 | .77074 | .63715 | 1.2097 | 50° 25'.2 |
| .89 | .77707 | .62941 | 1.2346 | 50° 59'.6 |
| .90 | .78333 | .62161 | 1.2602 | 51° 34'.0 |
| .91 | .78950 | .61375 | 1.2864 | 52° 08'.3 |
| .92 | .79560 | .60582 | 1.3133 | 52° 42'.7 |
| .93 | .80162 | .59783 | 1.3409 | 53° 17'.1 |
| .94 | .80756 | .58979 | 1.3692 | 53° 51'.5 |
| .95 | .81342 | .58168 | 1.3984 | 54° 25'.9 |
| .96 | .81919 | .57352 | 1.4284 | 55° 00'.2 |
| .97 | .82489 | .56530 | 1.4592 | 55° 34'.6 |
| .98 | .83050 | .55702 | 1.4910 | 56° 09'.0 |
| .99 | .83603 | .54869 | 1.5237 | 56° 43'.4 |
| 1.00 | .84147 | .54030 | 1.5574 | 57° 17'.7 |

| x Radians | Sin x | Cos x | Tan x | Equivalent of x |
|-------------|---------|---------|---------|-------------------|
| 1.00 | .84147 | .54030 | 1.5574 | 57° 17' 7" |
| 1.01 | .84683 | .53186 | 1.5922 | 57° 52' 1" |
| 1.02 | .85211 | .52337 | 1.6281 | 58° 26' 5" |
| 1.03 | .85730 | .51482 | 1.6652 | 59° 00' 9" |
| 1.04 | .86240 | .50622 | 1.7036 | 59° 35' 3" |
| 1.05 | .86742 | .49757 | 1.7433 | 60° 09' 6" |
| 1.06 | .87236 | .48887 | 1.7844 | 60° 44' 0" |
| 1.07 | .87720 | .48012 | 1.8270 | 61° 18' 4" |
| 1.08 | .88196 | .47133 | 1.8712 | 61° 52' 8" |
| 1.09 | .88663 | .46249 | 1.9171 | 62° 27' 1" |
| 1.10 | .89121 | .45360 | 1.9648 | 63° 01' 5" |
| 1.11 | .89570 | .44466 | 2.0143 | 63° 35' 9" |
| 1.12 | .90010 | .43568 | 2.0660 | 64° 10' 3" |
| 1.13 | .90441 | .42666 | 2.1198 | 64° 44' 7" |
| 1.14 | .90863 | .41759 | 2.1759 | 65° 19' 0" |
| 1.15 | .91276 | .40849 | 2.2345 | 65° 53' 4" |
| 1.16 | .91680 | .39934 | 2.2958 | 66° 27' 8" |
| 1.17 | .92075 | .39015 | 2.3600 | 67° 02' 2" |
| 1.18 | .92461 | .38092 | 2.4273 | 67° 36' 5" |
| 1.19 | .92837 | .37166 | 2.4979 | 68° 10' 9" |
| 1.20 | .93204 | .36236 | 2.5722 | 68° 45' 3" |
| 1.21 | .93562 | .35302 | 2.6503 | 69° 19' 7" |
| 1.22 | .93910 | .34365 | 2.7328 | 69° 54' 1" |
| 1.23 | .94249 | .33424 | 2.8198 | 70° 28' 4" |
| 1.24 | .94578 | .32480 | 2.9119 | 71° 02' 8" |
| 1.25 | .94898 | .31532 | 3.0096 | 71° 37' 2" |
| 1.26 | .95209 | .30582 | 3.1133 | 72° 11' 6" |
| 1.27 | .95510 | .29628 | 3.2236 | 72° 45' 9" |
| 1.28 | .95802 | .28672 | 3.3413 | 73° 20' 3" |
| 1.29 | .96084 | .27712 | 3.4672 | 73° 54' 7" |
| 1.30 | .96356 | .26750 | 3.6021 | 74° 29' 1" |

| x Radians | Sin x | Cos x | Tan x | Equivalent of x |
|-------------|---------|---------|---------|-------------------|
| 1.30 | .96356 | .26750 | 3.6021 | 74° 29' 1" |
| 1.31 | .96618 | .25785 | 3.7470 | 75° 03' 4" |
| 1.32 | .96872 | .24818 | 3.9033 | 75° 37' 8" |
| 1.33 | .97115 | .23848 | 4.0723 | 76° 12' 2" |
| 1.34 | .97348 | .22875 | 4.2536 | 76° 46' 6" |
| 1.35 | .97572 | .21901 | 4.4552 | 77° 21' 0" |
| 1.36 | .97786 | .20924 | 4.6734 | 77° 55' 3" |
| 1.37 | .97991 | .19945 | 4.9131 | 78° 29' 7" |
| 1.38 | .98185 | .18964 | 5.1774 | 79° 04' 1" |
| 1.39 | .98370 | .17981 | 5.4707 | 79° 38' 5" |
| 1.40 | .98545 | .16997 | 5.7979 | 80° 12' 8" |
| 1.41 | .98710 | .16010 | 6.1654 | 80° 47' 2" |
| 1.42 | .98865 | .15023 | 6.5811 | 81° 21' 6" |
| 1.43 | .99010 | .14033 | 7.0555 | 81° 56' 0" |
| 1.44 | .99146 | .13042 | 7.6018 | 82° 30' 4" |
| 1.45 | .99271 | .12050 | 8.2381 | 83° 04' 7" |
| 1.46 | .99387 | .11057 | 8.9886 | 83° 39' 1" |
| 1.47 | .99492 | .10063 | 9.8874 | 84° 13' 5" |
| 1.48 | .99588 | .09067 | 10.983 | 84° 47' 9" |
| 1.49 | .99674 | .08071 | 12.350 | 85° 22' 2" |
| 1.50 | .99749 | .07074 | 14.101 | 85° 56' 6" |
| 1.51 | .99815 | .06076 | 16.428 | 86° 31' 0" |
| 1.52 | .99871 | .05077 | 19.670 | 87° 05' 4" |
| 1.53 | .99917 | .04079 | 24.498 | 87° 39' 8" |
| 1.54 | .99953 | .03079 | 32.461 | 88° 14' 1" |
| 1.55 | .99978 | .02079 | 48.078 | 88° 48' 5" |
| 1.56 | .99994 | .01080 | 92.621 | 89° 22' 9" |
| 1.57 | 1.0000 | .00080 | 1255.8 | 89° 57' 3" |
| 1.58 | .99996 | -.00920 | -108.65 | 90° 31' 6" |
| 1.59 | .99982 | -.01920 | -52.067 | 91° 06' 0" |
| 1.60 | .99957 | -.02920 | -34.233 | 91° 40' 4" |

$$\pi \text{ radians} = 180^\circ$$

$$\pi = 3.14159265$$

$$1 \text{ radian} = 57^\circ 17' 44''.806 = 57.2957795$$

$$3600'' = 60' = 1^\circ = .01745329 \text{ radian}$$

TABLE Va—RADIAN TO DEGREES

| | RADIANS | TENTHS | HUNDREDTHS | THOUSANDTHS | TEN-THOUSANDTHS |
|----------|---------------|--------------|-------------|-------------|-----------------|
| 1 | 57°17'44''.8 | 5°43'46''.5 | 0°34'22''.6 | 0° 3'26''.3 | 0° 0'20''.6 |
| 2 | 114°35'29''.6 | 11°27'33''.0 | 1° 8'45''.3 | 0° 6'52''.5 | 0° 0'41''.3 |
| 3 | 171°53'14''.4 | 17°11'19''.4 | 1°43'07''.9 | 0°10'18''.8 | 0° 1'01''.9 |
| 4 | 229°10'59''.2 | 22°55'05''.9 | 2°17'30''.6 | 0°13'45''.1 | 0° 1'22''.5 |
| 5 | 286°28'44''.0 | 28°38'52''.4 | 2°51'53''.2 | 0°17'11''.3 | 0° 1'43''.1 |
| 6 | 343°46'28''.8 | 34°22'38''.9 | 3°26'15''.9 | 0°20'37''.6 | 0° 2'03''.8 |
| 7 | 401° 4'13''.6 | 40° 6'25''.4 | 4° 0'38''.5 | 0°24'03''.9 | 0° 2'24''.4 |
| 8 | 458°21'58''.4 | 45°50'11''.8 | 4°35'01''.2 | 0°27'30''.1 | 0° 2'45''.0 |
| 9 | 515°39'43''.3 | 51°33'58''.3 | 5° 9'23''.8 | 0°30'56''.4 | 0° 3'05''.6 |

| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |
|------|--------|------------|--------------|---------|---------------|-----------------|------------------|---------|
| 1.00 | 1.0000 | 1.00000 | 3.16228 | 1.00000 | 1.00000 | 2.15443 | 4.64159 | 1.00000 |
| 1.01 | 1.0201 | 1.00499 | 3.17805 | 1.03030 | 1.00332 | 2.16159 | 4.65701 | .990099 |
| 1.02 | 1.0404 | 1.00995 | 3.19374 | 1.06121 | 1.00662 | 2.16870 | 4.67233 | .980392 |
| 1.03 | 1.0609 | 1.01489 | 3.20936 | 1.09273 | 1.00990 | 2.17577 | 4.68755 | .970874 |
| 1.04 | 1.0816 | 1.01980 | 3.22490 | 1.12486 | 1.01316 | 2.18279 | 4.70267 | .961538 |
| 1.05 | 1.1025 | 1.02470 | 3.24037 | 1.15762 | 1.01640 | 2.18976 | 4.71769 | .952381 |
| 1.06 | 1.1236 | 1.02956 | 3.25576 | 1.19102 | 1.01961 | 2.19669 | 4.73262 | .943396 |
| 1.07 | 1.1449 | 1.03441 | 3.27109 | 1.22504 | 1.02281 | 2.20358 | 4.74746 | .934579 |
| 1.08 | 1.1664 | 1.03923 | 3.28634 | 1.25971 | 1.02599 | 2.21042 | 4.76220 | .925926 |
| 1.09 | 1.1881 | 1.04403 | 3.30151 | 1.29503 | 1.02914 | 2.21722 | 4.77686 | .917431 |
| 1.10 | 1.2100 | 1.04881 | 3.31662 | 1.33100 | 1.03228 | 2.22398 | 4.79142 | .909091 |
| 1.11 | 1.2321 | 1.05357 | 3.33167 | 1.36763 | 1.03540 | 2.23070 | 4.80590 | .900901 |
| 1.12 | 1.2544 | 1.05830 | 3.34664 | 1.40493 | 1.03850 | 2.23738 | 4.82028 | .892857 |
| 1.13 | 1.2769 | 1.06301 | 3.36155 | 1.44290 | 1.04158 | 2.24402 | 4.83459 | .884956 |
| 1.14 | 1.2996 | 1.06771 | 3.37639 | 1.48154 | 1.04464 | 2.25062 | 4.84881 | .877193 |
| 1.15 | 1.3225 | 1.07238 | 3.39116 | 1.52088 | 1.04769 | 2.25718 | 4.86294 | .869565 |
| 1.16 | 1.3456 | 1.07703 | 3.40588 | 1.56090 | 1.05072 | 2.26370 | 4.87700 | .862069 |
| 1.17 | 1.3689 | 1.08167 | 3.42053 | 1.60161 | 1.05373 | 2.27019 | 4.89097 | .854701 |
| 1.18 | 1.3924 | 1.08628 | 3.43511 | 1.64303 | 1.05672 | 2.27664 | 4.90487 | .847458 |
| 1.19 | 1.4161 | 1.09087 | 3.44964 | 1.68516 | 1.05970 | 2.28305 | 4.91868 | .840336 |
| 1.20 | 1.4400 | 1.09545 | 3.46410 | 1.72800 | 1.06266 | 2.28943 | 4.93242 | .833333 |
| 1.21 | 1.4641 | 1.10000 | 3.47851 | 1.77156 | 1.06560 | 2.29577 | 4.94609 | .826446 |
| 1.22 | 1.4884 | 1.10454 | 3.49285 | 1.81585 | 1.06853 | 2.30208 | 4.95968 | .819672 |
| 1.23 | 1.5129 | 1.10905 | 3.50714 | 1.86087 | 1.07144 | 2.30835 | 4.97319 | .813008 |
| 1.24 | 1.5376 | 1.11355 | 3.52136 | 1.90662 | 1.07434 | 2.31459 | 4.98663 | .806452 |
| 1.25 | 1.5625 | 1.11803 | 3.53553 | 1.95312 | 1.07722 | 2.32079 | 5.00000 | .800000 |
| 1.26 | 1.5876 | 1.12250 | 3.54965 | 2.00038 | 1.08008 | 2.32697 | 5.01330 | .793651 |
| 1.27 | 1.6129 | 1.12694 | 3.56371 | 2.04838 | 1.08293 | 2.33311 | 5.02653 | .787402 |
| 1.28 | 1.6384 | 1.13137 | 3.57771 | 2.09715 | 1.08577 | 2.33921 | 5.03968 | .781250 |
| 1.29 | 1.6641 | 1.13578 | 3.59166 | 2.14669 | 1.08859 | 2.34529 | 5.05277 | .775194 |
| 1.30 | 1.6900 | 1.14018 | 3.60555 | 2.19700 | 1.09139 | 2.35133 | 5.06580 | .769231 |
| 1.31 | 1.7161 | 1.14455 | 3.61939 | 2.24809 | 1.09418 | 2.35735 | 5.07875 | .763359 |
| 1.32 | 1.7424 | 1.14891 | 3.63318 | 2.29997 | 1.09696 | 2.36333 | 5.09164 | .757576 |
| 1.33 | 1.7689 | 1.15326 | 3.64692 | 2.35264 | 1.09972 | 2.36928 | 5.10447 | .751880 |
| 1.34 | 1.7956 | 1.15758 | 3.66060 | 2.40610 | 1.10247 | 2.37521 | 5.11723 | .746269 |
| 1.35 | 1.8225 | 1.16190 | 3.67423 | 2.46038 | 1.10521 | 2.38110 | 5.12993 | .740741 |
| 1.36 | 1.8496 | 1.16619 | 3.68782 | 2.51546 | 1.10793 | 2.38697 | 5.14256 | .735294 |
| 1.37 | 1.8769 | 1.17047 | 3.70135 | 2.57135 | 1.11064 | 2.39280 | 5.15514 | .729927 |
| 1.38 | 1.9044 | 1.17473 | 3.71484 | 2.62807 | 1.11334 | 2.39861 | 5.16765 | .724638 |
| 1.39 | 1.9321 | 1.17898 | 3.72827 | 2.68562 | 1.11602 | 2.40439 | 5.18010 | .719424 |
| 1.40 | 1.9600 | 1.18322 | 3.74166 | 2.74400 | 1.11869 | 2.41014 | 5.19249 | .714286 |
| 1.41 | 1.9881 | 1.18743 | 3.75500 | 2.80322 | 1.12135 | 2.41587 | 5.20483 | .709220 |
| 1.42 | 2.0164 | 1.19164 | 3.76829 | 2.86329 | 1.12399 | 2.42156 | 5.21710 | .704225 |
| 1.43 | 2.0449 | 1.19583 | 3.78153 | 2.92421 | 1.12662 | 2.42724 | 5.22932 | .699301 |
| 1.44 | 2.0736 | 1.20000 | 3.79473 | 2.98598 | 1.12924 | 2.43288 | 5.24148 | .694444 |
| 1.45 | 2.1025 | 1.20416 | 3.80789 | 3.04862 | 1.13185 | 2.43850 | 5.25359 | .689655 |
| 1.46 | 2.1316 | 1.20830 | 3.82099 | 3.11214 | 1.13445 | 2.44409 | 5.26564 | .684932 |
| 1.47 | 2.1609 | 1.21244 | 3.83406 | 3.17652 | 1.13703 | 2.44966 | 5.27763 | .680272 |
| 1.48 | 2.1904 | 1.21655 | 3.84708 | 3.24179 | 1.13960 | 2.45520 | 5.28957 | .675676 |
| 1.49 | 2.2201 | 1.22066 | 3.86005 | 3.30795 | 1.14216 | 2.46072 | 5.30146 | .671141 |
| 1.50 | 2.2500 | 1.22474 | 3.87298 | 3.37500 | 1.14471 | 2.46621 | 5.31329 | .666667 |
| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |

| n | n^2 | \sqrt{n} | $\sqrt{10\,n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10\,n}$ | $\sqrt[3]{100\,n}$ | $1/n$ |
|-------------|--------|------------|----------------|---------|---------------|-------------------|--------------------|---------|
| 1.50 | 2.2500 | 1.22474 | 3.87298 | 3.37500 | 1.14471 | 2.46621 | 5.31329 | .666667 |
| 1.51 | 2.2801 | 1.22882 | 3.88587 | 3.44295 | 1.14725 | 2.47168 | 5.32507 | .662252 |
| 1.52 | 2.3104 | 1.23288 | 3.89872 | 3.51181 | 1.14978 | 2.47712 | 5.33680 | .657895 |
| 1.53 | 2.3409 | 1.23693 | 3.91152 | 3.58158 | 1.15230 | 2.48255 | 5.34848 | .653595 |
| 1.54 | 2.3716 | 1.24097 | 3.92428 | 3.65226 | 1.15480 | 2.48794 | 5.36011 | .649351 |
| 1.55 | 2.4025 | 1.24499 | 3.93700 | 3.72388 | 1.15729 | 2.49332 | 5.37169 | .645161 |
| 1.56 | 2.4336 | 1.24900 | 3.94968 | 3.79642 | 1.15978 | 2.49867 | 5.38321 | .641026 |
| 1.57 | 2.4649 | 1.25300 | 3.96232 | 3.86989 | 1.16225 | 2.50399 | 5.39469 | .636943 |
| 1.58 | 2.4964 | 1.25698 | 3.97492 | 3.94431 | 1.16471 | 2.50930 | 5.40612 | .632911 |
| 1.59 | 2.5281 | 1.26095 | 3.98748 | 4.01968 | 1.16717 | 2.51458 | 5.41750 | .628931 |
| 1.60 | 2.5600 | 1.26491 | 4.00000 | 4.09600 | 1.16961 | 2.51984 | 5.42884 | .625000 |
| 1.61 | 2.5921 | 1.26886 | 4.01248 | 4.17328 | 1.17204 | 2.52508 | 5.44012 | .621118 |
| 1.62 | 2.6244 | 1.27279 | 4.02492 | 4.25153 | 1.17446 | 2.53030 | 5.45136 | .617284 |
| 1.63 | 2.6569 | 1.27671 | 4.03733 | 4.33075 | 1.17687 | 2.53549 | 5.46256 | .613497 |
| 1.64 | 2.6896 | 1.28062 | 4.04969 | 4.41094 | 1.17927 | 2.54067 | 5.47370 | .609756 |
| 1.65 | 2.7225 | 1.28452 | 4.06202 | 4.49212 | 1.18167 | 2.54582 | 5.48481 | .606061 |
| 1.66 | 2.7556 | 1.28841 | 4.07431 | 4.57430 | 1.18405 | 2.55095 | 5.49586 | .602410 |
| 1.67 | 2.7889 | 1.29228 | 4.08656 | 4.65746 | 1.18642 | 2.55607 | 5.50688 | .598802 |
| 1.68 | 2.8224 | 1.29615 | 4.09878 | 4.74163 | 1.18878 | 2.56116 | 5.51785 | .595238 |
| 1.69 | 2.8561 | 1.30000 | 4.11096 | 4.82681 | 1.19114 | 2.56623 | 5.52877 | .591716 |
| 1.70 | 2.8900 | 1.30384 | 4.12311 | 4.91300 | 1.19348 | 2.57128 | 5.53966 | .588235 |
| 1.71 | 2.9241 | 1.30767 | 4.13521 | 5.00021 | 1.19582 | 2.57631 | 5.55050 | .584795 |
| 1.72 | 2.9584 | 1.31149 | 4.14729 | 5.08845 | 1.19815 | 2.58133 | 5.56130 | .581395 |
| 1.73 | 2.9929 | 1.31529 | 4.15933 | 5.17772 | 1.20046 | 2.58632 | 5.57205 | .578035 |
| 1.74 | 3.0276 | 1.31909 | 4.17133 | 5.26802 | 1.20277 | 2.59129 | 5.58277 | .574713 |
| 1.75 | 3.0625 | 1.32288 | 4.18330 | 5.35938 | 1.20507 | 2.59625 | 5.59344 | .571429 |
| 1.76 | 3.0976 | 1.32665 | 4.19524 | 5.45178 | 1.20736 | 2.60118 | 5.60408 | .568182 |
| 1.77 | 3.1329 | 1.33041 | 4.20714 | 5.54523 | 1.20964 | 2.60610 | 5.61467 | .564972 |
| 1.78 | 3.1684 | 1.33417 | 4.21900 | 5.63975 | 1.21192 | 2.61100 | 5.62523 | .561798 |
| 1.79 | 3.2041 | 1.33791 | 4.23084 | 5.73534 | 1.21418 | 2.61588 | 5.63574 | .558659 |
| 1.80 | 3.2400 | 1.34164 | 4.24264 | 5.83200 | 1.21644 | 2.62074 | 5.64622 | .555556 |
| 1.81 | 3.2761 | 1.34536 | 4.25441 | 5.92974 | 1.21869 | 2.62559 | 5.65665 | .552486 |
| 1.82 | 3.3124 | 1.34907 | 4.26615 | 6.02857 | 1.22093 | 2.63041 | 5.66705 | .549451 |
| 1.83 | 3.3489 | 1.35277 | 4.27785 | 6.12849 | 1.22316 | 2.63522 | 5.67741 | .546448 |
| 1.84 | 3.3856 | 1.35647 | 4.28952 | 6.22950 | 1.22539 | 2.64001 | 5.68773 | .543478 |
| 1.85 | 3.4225 | 1.36015 | 4.30116 | 6.33162 | 1.22760 | 2.64479 | 5.69802 | .540541 |
| 1.86 | 3.4596 | 1.36382 | 4.31277 | 6.43486 | 1.22981 | 2.64954 | 5.70827 | .537634 |
| 1.87 | 3.4969 | 1.36748 | 4.32435 | 6.53920 | 1.23201 | 2.65428 | 5.71848 | .534759 |
| 1.88 | 3.5344 | 1.37113 | 4.33590 | 6.64467 | 1.23420 | 2.65901 | 5.72865 | .531915 |
| 1.89 | 3.5721 | 1.37477 | 4.34741 | 6.75127 | 1.23639 | 2.66371 | 5.73879 | .529101 |
| 1.90 | 3.6100 | 1.37840 | 4.35890 | 6.85900 | 1.23856 | 2.66840 | 5.74890 | .526316 |
| 1.91 | 3.6481 | 1.38203 | 4.37035 | 6.96787 | 1.24073 | 2.67307 | 5.75897 | .523560 |
| 1.92 | 3.6864 | 1.38564 | 4.38178 | 7.07789 | 1.24289 | 2.67773 | 5.76900 | .520833 |
| 1.93 | 3.7249 | 1.38924 | 4.39318 | 7.18906 | 1.24505 | 2.68237 | 5.77900 | .518135 |
| 1.94 | 3.7636 | 1.39284 | 4.40454 | 7.30138 | 1.24719 | 2.68700 | 5.78896 | .515464 |
| 1.95 | 3.8025 | 1.39642 | 4.41588 | 7.41488 | 1.24933 | 2.69161 | 5.79889 | .512821 |
| 1.96 | 3.8416 | 1.40000 | 4.42719 | 7.52954 | 1.25146 | 2.69620 | 5.80879 | .510204 |
| 1.97 | 3.8809 | 1.40357 | 4.43847 | 7.64537 | 1.25359 | 2.70078 | 5.81865 | .507614 |
| 1.98 | 3.9204 | 1.40712 | 4.44972 | 7.76239 | 1.25571 | 2.70534 | 5.82848 | .505051 |
| 1.99 | 3.9601 | 1.41067 | 4.46094 | 7.88060 | 1.25782 | 2.70989 | 5.83827 | .502513 |
| 2.00 | 4.0000 | 1.41421 | 4.47214 | 8.00000 | 1.25992 | 2.71442 | 5.84804 | .500000 |
| n | n^2 | \sqrt{n} | $\sqrt{10\,n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10\,n}$ | $\sqrt[3]{100\,n}$ | $1/n$ |

| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |
|-------------|--------|------------|--------------|---------|---------------|-----------------|------------------|---------|
| 2.00 | 4.0000 | 1.41421 | 4.47214 | 8.00000 | 1.25992 | 2.71442 | 5.84804 | .500000 |
| 2.01 | 4.0401 | 1.41774 | 4.48330 | 8.12060 | 1.26202 | 2.71893 | 5.85777 | .497512 |
| 2.02 | 4.0804 | 1.42127 | 4.49444 | 8.24241 | 1.26411 | 2.72344 | 5.86746 | .495050 |
| 2.03 | 4.1209 | 1.42478 | 4.50555 | 8.36543 | 1.26619 | 2.72792 | 5.87713 | .492611 |
| 2.04 | 4.1616 | 1.42829 | 4.51664 | 8.48966 | 1.26827 | 2.73239 | 5.88677 | .490196 |
| 2.05 | 4.2025 | 1.43178 | 4.52769 | 8.61512 | 1.27033 | 2.73685 | 5.89637 | .487805 |
| 2.06 | 4.2436 | 1.43527 | 4.53872 | 8.74182 | 1.27240 | 2.74129 | 5.90594 | .485437 |
| 2.07 | 4.2849 | 1.43875 | 4.54973 | 8.86974 | 1.27445 | 2.74572 | 5.91548 | .483092 |
| 2.08 | 4.3264 | 1.44222 | 4.56070 | 8.99891 | 1.27650 | 2.75014 | 5.92499 | .480769 |
| 2.09 | 4.3681 | 1.44568 | 4.57165 | 9.12933 | 1.27854 | 2.75454 | 5.93447 | .478469 |
| 2.10 | 4.4100 | 1.44914 | 4.58258 | 9.26100 | 1.28058 | 2.75892 | 5.94392 | .476190 |
| 2.11 | 4.4521 | 1.45258 | 4.59347 | 9.39393 | 1.28261 | 2.76330 | 5.95334 | .473934 |
| 2.12 | 4.4944 | 1.45602 | 4.60435 | 9.52813 | 1.28463 | 2.76766 | 5.96273 | .471698 |
| 2.13 | 4.5369 | 1.45945 | 4.61519 | 9.66360 | 1.28665 | 2.77200 | 5.97209 | .469434 |
| 2.14 | 4.5796 | 1.46287 | 4.62601 | 9.80034 | 1.28866 | 2.77633 | 5.98142 | .467290 |
| 2.15 | 4.6225 | 1.46629 | 4.63681 | 9.93838 | 1.29066 | 2.78065 | 5.99073 | .465116 |
| 2.16 | 4.6656 | 1.46969 | 4.64758 | 10.0777 | 1.29266 | 2.78495 | 6.00000 | .462963 |
| 2.17 | 4.7089 | 1.47309 | 4.65833 | 10.2183 | 1.29465 | 2.78924 | 6.00925 | .460829 |
| 2.18 | 4.7524 | 1.47648 | 4.66905 | 10.3602 | 1.29664 | 2.79352 | 6.01846 | .458716 |
| 2.19 | 4.7961 | 1.47986 | 4.67974 | 10.5035 | 1.29862 | 2.79779 | 6.02765 | .456621 |
| 2.20 | 4.8400 | 1.48324 | 4.69042 | 10.6480 | 1.30059 | 2.80204 | 6.03681 | .454545 |
| 2.21 | 4.8841 | 1.48661 | 4.70106 | 10.7939 | 1.30256 | 2.80628 | 6.04594 | .452489 |
| 2.22 | 4.9284 | 1.48997 | 4.71169 | 10.9410 | 1.30452 | 2.81050 | 6.05505 | .450450 |
| 2.23 | 4.9729 | 1.49332 | 4.72229 | 11.0896 | 1.30648 | 2.81472 | 6.06413 | .448430 |
| 2.24 | 5.0176 | 1.49666 | 4.73286 | 11.2394 | 1.30843 | 2.81892 | 6.07318 | .446429 |
| 2.25 | 5.0625 | 1.50000 | 4.74342 | 11.3906 | 1.31037 | 2.82311 | 6.08220 | .444444 |
| 2.26 | 5.1076 | 1.50333 | 4.75395 | 11.5432 | 1.31231 | 2.82728 | 6.09120 | .442478 |
| 2.27 | 5.1529 | 1.50665 | 4.76445 | 11.6971 | 1.31424 | 2.83145 | 6.10017 | .440529 |
| 2.28 | 5.1984 | 1.50997 | 4.77493 | 11.8524 | 1.31617 | 2.83560 | 6.10911 | .438596 |
| 2.29 | 5.2441 | 1.51327 | 4.78539 | 12.0090 | 1.31809 | 2.83974 | 6.11803 | .436681 |
| 2.30 | 5.2900 | 1.51658 | 4.79583 | 12.1670 | 1.32001 | 2.84387 | 6.12693 | .434783 |
| 2.31 | 5.3361 | 1.51987 | 4.80625 | 12.3264 | 1.32192 | 2.84798 | 6.13579 | .432900 |
| 2.32 | 5.3824 | 1.52315 | 4.81664 | 12.4872 | 1.32382 | 2.85209 | 6.14463 | .431034 |
| 2.33 | 5.4289 | 1.52643 | 4.82701 | 12.6493 | 1.32572 | 2.85618 | 6.15345 | .429185 |
| 2.34 | 5.4756 | 1.52971 | 4.83735 | 12.8129 | 1.32761 | 2.86026 | 6.16224 | .427350 |
| 2.35 | 5.5225 | 1.53297 | 4.84768 | 12.9779 | 1.32950 | 2.86433 | 6.17101 | .425532 |
| 2.36 | 5.5696 | 1.53623 | 4.85798 | 13.1443 | 1.33139 | 2.86838 | 6.17975 | .423729 |
| 2.37 | 5.6169 | 1.53948 | 4.86826 | 13.3121 | 1.33326 | 2.87243 | 6.18846 | .421941 |
| 2.38 | 5.6644 | 1.54272 | 4.87852 | 13.4813 | 1.33514 | 2.87646 | 6.19715 | .420168 |
| 2.39 | 5.7121 | 1.54596 | 4.88876 | 13.6519 | 1.33700 | 2.88049 | 6.20582 | .418410 |
| 2.40 | 5.7600 | 1.54919 | 4.89898 | 13.8240 | 1.33887 | 2.88450 | 6.21447 | .416667 |
| 2.41 | 5.8081 | 1.55242 | 4.90918 | 13.9975 | 1.34072 | 2.88850 | 6.22308 | .414938 |
| 2.42 | 5.8564 | 1.55563 | 4.91935 | 14.1725 | 1.34257 | 2.89249 | 6.23168 | .413223 |
| 2.43 | 5.9049 | 1.55885 | 4.92950 | 14.3489 | 1.34442 | 2.89647 | 6.24025 | .411523 |
| 2.44 | 5.9536 | 1.56205 | 4.93964 | 14.5268 | 1.34626 | 2.90044 | 6.24880 | .409836 |
| 2.45 | 6.0025 | 1.56525 | 4.94975 | 14.7061 | 1.34810 | 2.90439 | 6.25732 | .408163 |
| 2.46 | 6.0516 | 1.56844 | 4.95984 | 14.8869 | 1.34993 | 2.90834 | 6.26583 | .406504 |
| 2.47 | 6.1009 | 1.57162 | 4.96991 | 15.0692 | 1.35176 | 2.91227 | 6.27431 | .404858 |
| 2.48 | 6.1504 | 1.57480 | 4.97996 | 15.2530 | 1.35358 | 2.91620 | 6.28276 | .403226 |
| 2.49 | 6.2001 | 1.57797 | 4.98999 | 15.4382 | 1.35540 | 2.92011 | 6.29119 | .401606 |
| 2.50 | 6.2500 | 1.58114 | 5.00000 | 15.6250 | 1.35721 | 2.92402 | 6.29961 | .400000 |
| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |

| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |
|-------------|--------|------------|--------------|---------|---------------|-----------------|------------------|---------|
| 2.50 | 6.2500 | 1.58114 | 5.00000 | 15.6250 | 1.35721 | 2.92402 | 6.29961 | .400000 |
| 2.51 | 6.3001 | 1.58430 | 5.00999 | 15.8133 | 1.35902 | 2.92791 | 6.30799 | .398406 |
| 2.52 | 6.3504 | 1.58745 | 5.01996 | 16.0030 | 1.36082 | 2.93179 | 6.31636 | .396825 |
| 2.53 | 6.4009 | 1.59060 | 5.02991 | 16.1943 | 1.36262 | 2.93567 | 6.32470 | .395257 |
| 2.54 | 6.4516 | 1.59374 | 5.03984 | 16.3871 | 1.36441 | 2.93953 | 6.33303 | .393701 |
| 2.55 | 6.5025 | 1.59687 | 5.04975 | 16.5814 | 1.36620 | 2.94338 | 6.34133 | .392157 |
| 2.56 | 6.5536 | 1.60000 | 5.05964 | 16.7772 | 1.36798 | 2.94723 | 6.34960 | .390625 |
| 2.57 | 6.6049 | 1.60312 | 5.06952 | 16.9746 | 1.36976 | 2.95106 | 6.35786 | .389105 |
| 2.58 | 6.6564 | 1.60624 | 5.07937 | 17.1735 | 1.37153 | 2.95488 | 6.36610 | .387597 |
| 2.59 | 6.7081 | 1.60935 | 5.08920 | 17.3740 | 1.37330 | 2.95869 | 6.37431 | .386100 |
| 2.60 | 6.7600 | 1.61245 | 5.09902 | 17.5760 | 1.37507 | 2.96250 | 6.38250 | .384615 |
| 2.61 | 6.8121 | 1.61555 | 5.10882 | 17.7796 | 1.37683 | 2.96629 | 6.39068 | .383142 |
| 2.62 | 6.8644 | 1.61864 | 5.11859 | 17.9847 | 1.37859 | 2.97007 | 6.39883 | .381679 |
| 2.63 | 6.9169 | 1.62173 | 5.12835 | 18.1914 | 1.38034 | 2.97385 | 6.40696 | .380228 |
| 2.64 | 6.9696 | 1.62481 | 5.13809 | 18.3997 | 1.38208 | 2.97761 | 6.41507 | .378788 |
| 2.65 | 7.0225 | 1.62788 | 5.14782 | 18.6096 | 1.38383 | 2.98137 | 6.42316 | .377358 |
| 2.66 | 7.0756 | 1.63095 | 5.15752 | 18.8211 | 1.38557 | 2.98511 | 6.43123 | .375940 |
| 2.67 | 7.1289 | 1.63401 | 5.16720 | 19.0342 | 1.38730 | 2.98885 | 6.43928 | .374532 |
| 2.68 | 7.1824 | 1.63707 | 5.17687 | 19.2488 | 1.38903 | 2.99257 | 6.44731 | .373134 |
| 2.69 | 7.2361 | 1.64012 | 5.18652 | 19.4651 | 1.39076 | 2.99629 | 6.45531 | .371747 |
| 2.70 | 7.2900 | 1.64317 | 5.19615 | 19.6830 | 1.39248 | 3.00000 | 6.46330 | .370370 |
| 2.71 | 7.3441 | 1.64621 | 5.20577 | 19.9025 | 1.39419 | 3.00370 | 6.47127 | .369004 |
| 2.72 | 7.3984 | 1.64924 | 5.21536 | 20.1236 | 1.39591 | 3.00739 | 6.47922 | .367647 |
| 2.73 | 7.4529 | 1.65227 | 5.22494 | 20.3464 | 1.39761 | 3.01107 | 6.48715 | .366300 |
| 2.74 | 7.5076 | 1.65529 | 5.23450 | 20.5708 | 1.39932 | 3.01474 | 6.49507 | .364964 |
| 2.75 | 7.5625 | 1.65831 | 5.24404 | 20.7969 | 1.40102 | 3.01841 | 6.50296 | .363636 |
| 2.76 | 7.6176 | 1.66132 | 5.25357 | 21.0246 | 1.40272 | 3.02206 | 6.51083 | .362319 |
| 2.77 | 7.6729 | 1.66433 | 5.26308 | 21.2539 | 1.40441 | 3.02570 | 6.51868 | .361011 |
| 2.78 | 7.7284 | 1.66733 | 5.27257 | 21.4850 | 1.40610 | 3.02934 | 6.52652 | .359712 |
| 2.79 | 7.7841 | 1.67033 | 5.28205 | 21.7176 | 1.40778 | 3.03297 | 6.53434 | .358423 |
| 2.80 | 7.8400 | 1.67332 | 5.29150 | 21.9520 | 1.40946 | 3.03659 | 6.54213 | .357143 |
| 2.81 | 7.8961 | 1.67631 | 5.30094 | 22.1880 | 1.41114 | 3.04020 | 6.54991 | .355872 |
| 2.82 | 7.9524 | 1.67929 | 5.31037 | 22.4258 | 1.41281 | 3.04380 | 6.55767 | .354610 |
| 2.83 | 8.0089 | 1.68226 | 5.31977 | 22.6652 | 1.41448 | 3.04740 | 6.56541 | .353357 |
| 2.84 | 8.0656 | 1.68523 | 5.32917 | 22.9063 | 1.41614 | 3.05098 | 6.57314 | .352113 |
| 2.85 | 8.1225 | 1.68819 | 5.33854 | 23.1491 | 1.41780 | 3.05456 | 6.58084 | .350877 |
| 2.86 | 8.1796 | 1.69115 | 5.34790 | 23.3937 | 1.41946 | 3.05813 | 6.58853 | .349650 |
| 2.87 | 8.2369 | 1.69411 | 5.35724 | 23.6399 | 1.42111 | 3.06169 | 6.59620 | .348432 |
| 2.88 | 8.2944 | 1.69706 | 5.36656 | 23.8879 | 1.42276 | 3.06524 | 6.60385 | .347222 |
| 2.89 | 8.3521 | 1.70000 | 5.37587 | 24.1376 | 1.42440 | 3.06878 | 6.61149 | .346021 |
| 2.90 | 8.4100 | 1.70294 | 5.38516 | 24.3890 | 1.42604 | 3.07232 | 6.61911 | .344828 |
| 2.91 | 8.4681 | 1.70587 | 5.39444 | 24.6422 | 1.42768 | 3.07584 | 6.62671 | .343643 |
| 2.92 | 8.5264 | 1.70880 | 5.40370 | 24.8971 | 1.42931 | 3.07936 | 6.63429 | .342466 |
| 2.93 | 8.5849 | 1.71172 | 5.41295 | 25.1538 | 1.43094 | 3.08287 | 6.64185 | .341297 |
| 2.94 | 8.6436 | 1.71464 | 5.42218 | 25.4122 | 1.43257 | 3.08638 | 6.64940 | .340136 |
| 2.95 | 8.7025 | 1.71756 | 5.43139 | 25.6724 | 1.43419 | 3.08987 | 6.65693 | .338983 |
| 2.96 | 8.7616 | 1.72047 | 5.44059 | 25.9343 | 1.43581 | 3.09336 | 6.66444 | .337838 |
| 2.97 | 8.8209 | 1.72337 | 5.44977 | 26.1981 | 1.43743 | 3.09684 | 6.67194 | .336700 |
| 2.98 | 8.8804 | 1.72627 | 5.45894 | 26.4636 | 1.43904 | 3.10031 | 6.67942 | .335570 |
| 2.99 | 8.9401 | 1.72916 | 5.46809 | 26.7309 | 1.44065 | 3.10378 | 6.68686 | .334448 |
| 3.00 | 9.0000 | 1.73205 | 5.47723 | 27.0000 | 1.44225 | 3.10723 | 6.69433 | .333333 |
| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |

| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |
|-------------|---------|------------|--------------|---------|---------------|-----------------|------------------|---------|
| 3.00 | 9.0000 | 1.73205 | 5.47723 | 27.0000 | 1.44225 | 3.10723 | 6.69433 | .333333 |
| 3.01 | 9.0601 | 1.73494 | 5.48635 | 27.2709 | 1.44385 | 3.11068 | 6.70176 | .332226 |
| 3.02 | 9.1204 | 1.73781 | 5.49545 | 27.5436 | 1.44545 | 3.11412 | 6.70917 | .331126 |
| 3.03 | 9.1809 | 1.74069 | 5.50454 | 27.8181 | 1.44704 | 3.11756 | 6.71657 | .330033 |
| 3.04 | 9.2416 | 1.74356 | 5.51362 | 28.0945 | 1.44863 | 3.12098 | 6.72395 | .328947 |
| 3.05 | 9.3025 | 1.74642 | 5.52268 | 28.3726 | 1.45022 | 3.12440 | 6.73132 | .327869 |
| 3.06 | 9.3636 | 1.74929 | 5.53173 | 28.6526 | 1.45180 | 3.12781 | 6.73866 | .326797 |
| 3.07 | 9.4249 | 1.75214 | 5.54076 | 28.9344 | 1.45338 | 3.13121 | 6.74600 | .325733 |
| 3.08 | 9.4864 | 1.75499 | 5.54977 | 29.2181 | 1.45496 | 3.13461 | 6.75331 | .324675 |
| 3.09 | 9.5481 | 1.75784 | 5.55878 | 29.5036 | 1.45653 | 3.13800 | 6.76061 | .323625 |
| 3.10 | 9.6100 | 1.76068 | 5.56776 | 29.7910 | 1.45810 | 3.14138 | 6.76790 | .322581 |
| 3.11 | 9.6721 | 1.76352 | 5.57674 | 30.0802 | 1.45967 | 3.14475 | 6.77517 | .321543 |
| 3.12 | 9.7344 | 1.76635 | 5.58570 | 30.3713 | 1.46123 | 3.14812 | 6.78242 | .320513 |
| 3.13 | 9.7969 | 1.76918 | 5.59464 | 30.6643 | 1.46279 | 3.15148 | 6.78966 | .319489 |
| 3.14 | 9.8596 | 1.77200 | 5.60357 | 30.9591 | 1.46434 | 3.15483 | 6.79688 | .318471 |
| 3.15 | 9.9225 | 1.77482 | 5.61249 | 31.2559 | 1.46590 | 3.15818 | 6.80409 | .317460 |
| 3.16 | 9.9856 | 1.77764 | 5.62139 | 31.5545 | 1.46745 | 3.16152 | 6.81128 | .316456 |
| 3.17 | 10.0489 | 1.78045 | 5.63028 | 31.8550 | 1.46899 | 3.16485 | 6.81846 | .315457 |
| 3.18 | 10.1124 | 1.78326 | 5.63915 | 32.1574 | 1.47054 | 3.16817 | 6.82562 | .314465 |
| 3.19 | 10.1761 | 1.78606 | 5.64801 | 32.4618 | 1.47208 | 3.17149 | 6.83277 | .313480 |
| 3.20 | 10.2400 | 1.78885 | 5.65685 | 32.7680 | 1.47361 | 3.17480 | 6.83990 | .312500 |
| 3.21 | 10.3041 | 1.79165 | 5.66569 | 33.0762 | 1.47515 | 3.17811 | 6.84702 | .311526 |
| 3.22 | 10.3684 | 1.79444 | 5.67450 | 33.3862 | 1.47668 | 3.18140 | 6.85412 | .310559 |
| 3.23 | 10.4329 | 1.79722 | 5.68331 | 33.6983 | 1.47820 | 3.18469 | 6.86121 | .309598 |
| 3.24 | 10.4976 | 1.80000 | 5.69210 | 34.0122 | 1.47973 | 3.18798 | 6.86829 | .308642 |
| 3.25 | 10.5625 | 1.80278 | 5.70088 | 34.3281 | 1.48125 | 3.19125 | 6.87534 | .307692 |
| 3.26 | 10.6276 | 1.80555 | 5.70964 | 34.6460 | 1.48277 | 3.19452 | 6.88239 | .306748 |
| 3.27 | 10.6929 | 1.80831 | 5.71839 | 34.9658 | 1.48428 | 3.19778 | 6.88942 | .305810 |
| 3.28 | 10.7584 | 1.81108 | 5.72713 | 35.2876 | 1.48579 | 3.20104 | 6.89643 | .304878 |
| 3.29 | 10.8241 | 1.81384 | 5.73585 | 35.6113 | 1.48730 | 3.20429 | 6.90344 | .303951 |
| 3.30 | 10.8900 | 1.81659 | 5.74456 | 35.9370 | 1.48881 | 3.20753 | 6.91042 | .303030 |
| 3.31 | 10.9561 | 1.81934 | 5.75326 | 36.2647 | 1.49031 | 3.21077 | 6.91740 | .302115 |
| 3.32 | 11.0224 | 1.82209 | 5.76194 | 36.5944 | 1.49181 | 3.21400 | 6.92436 | .301205 |
| 3.33 | 11.0889 | 1.82483 | 5.77062 | 36.9260 | 1.49330 | 3.21722 | 6.93130 | .300300 |
| 3.34 | 11.1556 | 1.82757 | 5.77927 | 37.2597 | 1.49480 | 3.22044 | 6.93823 | .299401 |
| 3.35 | 11.2225 | 1.83030 | 5.78792 | 37.5954 | 1.49629 | 3.22365 | 6.94515 | .298507 |
| 3.36 | 11.2896 | 1.83303 | 5.79655 | 37.9331 | 1.49777 | 3.22686 | 6.95205 | .297619 |
| 3.37 | 11.3569 | 1.83576 | 5.80517 | 38.2728 | 1.49926 | 3.23006 | 6.95894 | .296736 |
| 3.38 | 11.4244 | 1.83848 | 5.81378 | 38.6145 | 1.50074 | 3.23325 | 6.96582 | .295858 |
| 3.39 | 11.4921 | 1.84120 | 5.82237 | 38.9582 | 1.50222 | 3.23643 | 6.97268 | .294985 |
| 3.40 | 11.5600 | 1.84391 | 5.83095 | 39.3040 | 1.50369 | 3.23961 | 6.97953 | .294118 |
| 3.41 | 11.6281 | 1.84662 | 5.83952 | 39.6518 | 1.50517 | 3.24278 | 6.98637 | .293255 |
| 3.42 | 11.6964 | 1.84932 | 5.84808 | 40.0017 | 1.50664 | 3.24595 | 6.99319 | .292398 |
| 3.43 | 11.7649 | 1.85203 | 5.85662 | 40.3536 | 1.50810 | 3.24911 | 7.00000 | .291545 |
| 3.44 | 11.8336 | 1.85472 | 5.86515 | 40.7076 | 1.50957 | 3.25227 | 7.00680 | .290698 |
| 3.45 | 11.9025 | 1.85742 | 5.87367 | 41.0636 | 1.51103 | 3.25542 | 7.01358 | .289857 |
| 3.46 | 11.9716 | 1.86011 | 5.88218 | 41.4217 | 1.51249 | 3.25856 | 7.02035 | .289017 |
| 3.47 | 12.0409 | 1.86279 | 5.89067 | 41.7819 | 1.51394 | 3.26169 | 7.02711 | .288184 |
| 3.48 | 12.1104 | 1.86548 | 5.89915 | 42.1442 | 1.51540 | 3.26482 | 7.03386 | .287356 |
| 3.49 | 12.1801 | 1.86815 | 5.90762 | 42.5085 | 1.51685 | 3.26795 | 7.04058 | .286533 |
| 3.50 | 12.2500 | 1.87083 | 5.91608 | 42.8750 | 1.51829 | 3.27107 | 7.04730 | .285714 |
| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |

| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |
|-------------|---------|------------|--------------|---------|---------------|-----------------|------------------|---------|
| 3.50 | 12.2500 | 1.87083 | 5.91608 | 42.8750 | 1.51829 | 3.27107 | 7.04730 | .285714 |
| 3.51 | 12.3201 | 1.87350 | 5.92453 | 43.2436 | 1.51974 | 3.27418 | 7.05400 | .284900 |
| 3.52 | 12.3904 | 1.87617 | 5.93296 | 43.6142 | 1.52118 | 3.27729 | 7.06070 | .284091 |
| 3.53 | 12.4609 | 1.87883 | 5.94138 | 43.9870 | 1.52262 | 3.28039 | 7.06738 | .283286 |
| 3.54 | 12.5316 | 1.88149 | 5.94979 | 44.3619 | 1.52406 | 3.28348 | 7.07404 | .282486 |
| 3.55 | 12.6025 | 1.88414 | 5.95819 | 44.7389 | 1.52549 | 3.28657 | 7.08070 | .281690 |
| 3.56 | 12.6736 | 1.88680 | 5.96657 | 45.1180 | 1.52692 | 3.28965 | 7.08734 | .280899 |
| 3.57 | 12.7449 | 1.88944 | 5.97495 | 45.4993 | 1.52835 | 3.29273 | 7.09397 | .280112 |
| 3.58 | 12.8164 | 1.89209 | 5.98331 | 45.8827 | 1.52978 | 3.29580 | 7.10059 | .279330 |
| 3.59 | 12.8881 | 1.89473 | 5.99166 | 46.2683 | 1.53120 | 3.29887 | 7.10719 | .278552 |
| 3.60 | 12.9600 | 1.89737 | 6.00000 | 46.6560 | 1.53262 | 3.30193 | 7.11379 | .277778 |
| 3.61 | 13.0321 | 1.90000 | 6.00833 | 47.0459 | 1.53404 | 3.30498 | 7.12037 | .277008 |
| 3.62 | 13.1044 | 1.90263 | 6.01664 | 47.4379 | 1.53545 | 3.30803 | 7.12694 | .276243 |
| 3.63 | 13.1769 | 1.90526 | 6.02495 | 47.8321 | 1.53686 | 3.31107 | 7.13349 | .275482 |
| 3.64 | 13.2496 | 1.90788 | 6.03324 | 48.2285 | 1.53827 | 3.31411 | 7.14004 | .274725 |
| 3.65 | 13.3225 | 1.91050 | 6.04152 | 48.6271 | 1.53968 | 3.31714 | 7.14657 | .273973 |
| 3.66 | 13.3956 | 1.91311 | 6.04979 | 49.0279 | 1.54109 | 3.32017 | 7.15309 | .273224 |
| 3.67 | 13.4689 | 1.91572 | 6.05805 | 49.4309 | 1.54249 | 3.32319 | 7.15960 | .272480 |
| 3.68 | 13.5424 | 1.91833 | 6.06630 | 49.8360 | 1.54389 | 3.32621 | 7.16610 | .271739 |
| 3.69 | 13.6161 | 1.92094 | 6.07454 | 50.2434 | 1.54529 | 3.32922 | 7.17258 | .271003 |
| 3.70 | 13.6900 | 1.92354 | 6.08276 | 50.6530 | 1.54668 | 3.33222 | 7.17905 | .270270 |
| 3.71 | 13.7641 | 1.92614 | 6.09098 | 51.0648 | 1.54807 | 3.33522 | 7.18552 | .269542 |
| 3.72 | 13.8384 | 1.92873 | 6.09918 | 51.4788 | 1.54946 | 3.33822 | 7.19197 | .268817 |
| 3.73 | 13.9129 | 1.93132 | 6.10737 | 51.8951 | 1.55085 | 3.34120 | 7.19840 | .268097 |
| 3.74 | 13.9876 | 1.93391 | 6.11555 | 52.3136 | 1.55223 | 3.34419 | 7.20483 | .267380 |
| 3.75 | 14.0625 | 1.93649 | 6.12372 | 52.7344 | 1.55362 | 3.34716 | 7.21123 | .266667 |
| 3.76 | 14.1376 | 1.93907 | 6.13188 | 53.1574 | 1.55500 | 3.35014 | 7.21765 | .265957 |
| 3.77 | 14.2129 | 1.94165 | 6.14003 | 53.5826 | 1.55637 | 3.35310 | 7.22405 | .265252 |
| 3.78 | 14.2884 | 1.94422 | 6.14817 | 54.0102 | 1.55775 | 3.35607 | 7.23043 | .264550 |
| 3.79 | 14.3641 | 1.94679 | 6.15630 | 54.4399 | 1.55912 | 3.35902 | 7.23680 | .263852 |
| 3.80 | 14.4400 | 1.94936 | 6.16441 | 54.8720 | 1.56049 | 3.36198 | 7.24316 | .263158 |
| 3.81 | 14.5161 | 1.95192 | 6.17252 | 55.3063 | 1.56186 | 3.36492 | 7.24950 | .262467 |
| 3.82 | 14.5924 | 1.95448 | 6.18061 | 55.7430 | 1.56322 | 3.36786 | 7.25584 | .261780 |
| 3.83 | 14.6689 | 1.95704 | 6.18870 | 56.1819 | 1.56459 | 3.37080 | 7.26217 | .261097 |
| 3.84 | 14.7456 | 1.95959 | 6.19677 | 56.6231 | 1.56595 | 3.37373 | 7.26848 | .260417 |
| 3.85 | 14.8225 | 1.96214 | 6.20484 | 57.0666 | 1.56731 | 3.37666 | 7.27479 | .259740 |
| 3.86 | 14.8996 | 1.96469 | 6.21289 | 57.5125 | 1.56866 | 3.37958 | 7.28108 | .259067 |
| 3.87 | 14.9769 | 1.96723 | 6.22093 | 57.9606 | 1.57001 | 3.38249 | 7.28736 | .258398 |
| 3.88 | 15.0544 | 1.96977 | 6.22896 | 58.4111 | 1.57137 | 3.38540 | 7.29363 | .257732 |
| 3.89 | 15.1321 | 1.97231 | 6.23699 | 58.8639 | 1.57271 | 3.38831 | 7.29989 | .257069 |
| 3.90 | 15.2100 | 1.97484 | 6.24500 | 59.3190 | 1.57406 | 3.39121 | 7.30614 | .256410 |
| 3.91 | 15.2881 | 1.97737 | 6.25300 | 59.7765 | 1.57541 | 3.39411 | 7.31238 | .255754 |
| 3.92 | 15.3664 | 1.97990 | 6.26099 | 60.2363 | 1.57675 | 3.39700 | 7.31861 | .255102 |
| 3.93 | 15.4449 | 1.98242 | 6.26897 | 60.6985 | 1.57809 | 3.39988 | 7.32483 | .254453 |
| 3.94 | 15.5236 | 1.98494 | 6.27694 | 61.1630 | 1.57942 | 3.40277 | 7.33104 | .253807 |
| 3.95 | 15.6025 | 1.98746 | 6.28490 | 61.6299 | 1.58076 | 3.40564 | 7.33723 | .253165 |
| 3.96 | 15.6816 | 1.98997 | 6.29285 | 62.0991 | 1.58209 | 3.40851 | 7.34342 | .252525 |
| 3.97 | 15.7609 | 1.99249 | 6.30079 | 62.5708 | 1.58342 | 3.41138 | 7.34960 | .251889 |
| 3.98 | 15.8404 | 1.99499 | 6.30872 | 63.0448 | 1.58475 | 3.41424 | 7.35576 | .251256 |
| 3.99 | 15.9201 | 1.99750 | 6.31664 | 63.5212 | 1.58608 | 3.41710 | 7.36192 | .250627 |
| 4.00 | 16.0000 | 2.00000 | 6.32456 | 64.0000 | 1.58740 | 3.41995 | 7.36806 | .250000 |
| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |

| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |
|-------------|---------|------------|--------------|---------|---------------|-----------------|------------------|---------|
| 4.00 | 16.0000 | 2.00000 | 6.32456 | 64.0000 | 1.58740 | 3.41995 | 7.36806 | .250000 |
| 4.01 | 16.0801 | 2.00250 | 6.33246 | 64.4812 | 1.58872 | 3.42280 | 7.37420 | .249377 |
| 4.02 | 16.1604 | 2.00499 | 6.34035 | 64.9648 | 1.59004 | 3.42564 | 7.38032 | .248756 |
| 4.03 | 16.2409 | 2.00749 | 6.34823 | 65.4508 | 1.59136 | 3.42848 | 7.38644 | .248139 |
| 4.04 | 16.3216 | 2.00998 | 6.35610 | 65.9393 | 1.59267 | 3.43131 | 7.39254 | .247525 |
| 4.05 | 16.4025 | 2.01246 | 6.36396 | 66.4301 | 1.59399 | 3.43414 | 7.39864 | .246914 |
| 4.06 | 16.4836 | 2.01494 | 6.37181 | 66.9234 | 1.59530 | 3.43697 | 7.40472 | .246305 |
| 4.07 | 16.5649 | 2.01742 | 6.37966 | 67.4191 | 1.59661 | 3.43979 | 7.41080 | .245700 |
| 4.08 | 16.6464 | 2.01990 | 6.38749 | 67.9173 | 1.59791 | 3.44260 | 7.41686 | .245098 |
| 4.09 | 16.7281 | 2.02237 | 6.39531 | 68.4179 | 1.59922 | 3.44541 | 7.42291 | .244499 |
| 4.10 | 16.8100 | 2.02485 | 6.40312 | 68.9210 | 1.60052 | 3.44822 | 7.42896 | .243902 |
| 4.11 | 16.8921 | 2.02731 | 6.41093 | 69.4265 | 1.60182 | 3.45102 | 7.43499 | .243309 |
| 4.12 | 16.9744 | 2.02978 | 6.41872 | 69.9345 | 1.60312 | 3.45382 | 7.44102 | .242718 |
| 4.13 | 17.0569 | 2.03224 | 6.42651 | 70.4450 | 1.60441 | 3.45661 | 7.44703 | .242131 |
| 4.14 | 17.1396 | 2.03470 | 6.43428 | 70.9579 | 1.60571 | 3.45939 | 7.45304 | .241546 |
| 4.15 | 17.2225 | 2.03715 | 6.44205 | 71.4734 | 1.60700 | 3.46218 | 7.45904 | .240964 |
| 4.16 | 17.3056 | 2.03961 | 6.44981 | 71.9913 | 1.60829 | 3.46496 | 7.46502 | .240385 |
| 4.17 | 17.3889 | 2.04206 | 6.45755 | 72.5117 | 1.60958 | 3.46773 | 7.47100 | .239808 |
| 4.18 | 17.4724 | 2.04450 | 6.46529 | 73.0346 | 1.61086 | 3.47050 | 7.47697 | .239234 |
| 4.19 | 17.5561 | 2.04695 | 6.47302 | 73.5601 | 1.61215 | 3.47327 | 7.48292 | .238663 |
| 4.20 | 17.6400 | 2.04939 | 6.48074 | 74.0880 | 1.61343 | 3.47603 | 7.48887 | .238095 |
| 4.21 | 17.7241 | 2.05183 | 6.48845 | 74.6185 | 1.61471 | 3.47878 | 7.49481 | .237530 |
| 4.22 | 17.8084 | 2.05426 | 6.49615 | 75.1514 | 1.61599 | 3.48154 | 7.50074 | .236967 |
| 4.23 | 17.8929 | 2.05670 | 6.50384 | 75.6870 | 1.61726 | 3.48428 | 7.50666 | .236407 |
| 4.24 | 17.9776 | 2.05913 | 6.51153 | 76.2250 | 1.61853 | 3.48703 | 7.51257 | .235849 |
| 4.25 | 18.0625 | 2.06155 | 6.51920 | 76.7656 | 1.61981 | 3.48977 | 7.51847 | .235294 |
| 4.26 | 18.1476 | 2.06398 | 6.52687 | 77.3088 | 1.62108 | 3.49250 | 7.52437 | .234742 |
| 4.27 | 18.2329 | 2.06640 | 6.53452 | 77.8545 | 1.62234 | 3.49523 | 7.53025 | .234192 |
| 4.28 | 18.3184 | 2.06882 | 6.54217 | 78.4028 | 1.62361 | 3.49796 | 7.53612 | .233645 |
| 4.29 | 18.4041 | 2.07123 | 6.54981 | 78.9536 | 1.62487 | 3.50068 | 7.54199 | .233100 |
| 4.30 | 18.4900 | 2.07364 | 6.55744 | 79.5070 | 1.62613 | 3.50340 | 7.54784 | .232558 |
| 4.31 | 18.5761 | 2.07605 | 6.56506 | 80.0630 | 1.62739 | 3.50611 | 7.55369 | .232019 |
| 4.32 | 18.6624 | 2.07846 | 6.57267 | 80.6216 | 1.62865 | 3.50882 | 7.55953 | .231481 |
| 4.33 | 18.7489 | 2.08087 | 6.58027 | 81.1827 | 1.62991 | 3.51153 | 7.56535 | .230947 |
| 4.34 | 18.8356 | 2.08327 | 6.58787 | 81.7465 | 1.63116 | 3.51423 | 7.57117 | .230415 |
| 4.35 | 18.9225 | 2.08567 | 6.59545 | 82.3129 | 1.63241 | 3.51692 | 7.57698 | .229885 |
| 4.36 | 19.0096 | 2.08806 | 6.60303 | 82.8819 | 1.63366 | 3.51962 | 7.58279 | .229358 |
| 4.37 | 19.0969 | 2.09045 | 6.61060 | 83.4535 | 1.63491 | 3.52231 | 7.58858 | .228833 |
| 4.38 | 19.1844 | 2.09284 | 6.61816 | 84.0277 | 1.63619 | 3.52499 | 7.59436 | .228311 |
| 4.39 | 19.2721 | 2.09523 | 6.62571 | 84.6045 | 1.63740 | 3.52767 | 7.60014 | .227790 |
| 4.40 | 19.3600 | 2.09762 | 6.63325 | 85.1840 | 1.63864 | 3.53035 | 7.60590 | .227273 |
| 4.41 | 19.4481 | 2.10000 | 6.64078 | 85.7661 | 1.63988 | 3.53302 | 7.61166 | .226757 |
| 4.42 | 19.5364 | 2.10238 | 6.64831 | 86.3509 | 1.64112 | 3.53569 | 7.61741 | .226244 |
| 4.43 | 19.6249 | 2.10476 | 6.65582 | 86.9383 | 1.64236 | 3.53835 | 7.62315 | .225734 |
| 4.44 | 19.7136 | 2.10713 | 6.66333 | 87.5284 | 1.64359 | 3.54101 | 7.62888 | .225225 |
| 4.45 | 19.8025 | 2.10950 | 6.67083 | 88.1211 | 1.64483 | 3.54367 | 7.63461 | .224719 |
| 4.46 | 19.8916 | 2.11187 | 6.67832 | 88.7165 | 1.64606 | 3.54632 | 7.64032 | .224215 |
| 4.47 | 19.9809 | 2.11424 | 6.68581 | 89.3146 | 1.64729 | 3.54897 | 7.64603 | .223714 |
| 4.48 | 20.0704 | 2.11660 | 6.69328 | 89.9154 | 1.64851 | 3.55162 | 7.65172 | .223214 |
| 4.49 | 20.1601 | 2.11896 | 6.70075 | 90.5188 | 1.64974 | 3.55426 | 7.65741 | .222717 |
| 4.50 | 20.2500 | 2.12132 | 6.70820 | 91.1250 | 1.65096 | 3.55689 | 7.66309 | .222222 |
| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |

| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |
|-------------|---------|------------|--------------|---------|---------------|-----------------|------------------|---------|
| 4.50 | 20.2500 | 2.12132 | 6.70820 | 91.1250 | 1.65006 | 3.55689 | 7.66309 | .222222 |
| 4.51 | 20.3401 | 2.12368 | 6.71565 | 91.7339 | 1.65219 | 3.55953 | 7.66877 | .221729 |
| 4.52 | 20.4304 | 2.12603 | 6.72309 | 92.3454 | 1.65341 | 3.56215 | 7.67443 | .221239 |
| 4.53 | 20.5209 | 2.12838 | 6.73053 | 92.9597 | 1.65462 | 3.56478 | 7.68009 | .220751 |
| 4.54 | 20.6116 | 2.13073 | 6.73795 | 93.5767 | 1.65584 | 3.56740 | 7.68573 | .220264 |
| 4.55 | 20.7025 | 2.13307 | 6.74537 | 94.1964 | 1.65706 | 3.57002 | 7.69137 | .219780 |
| 4.56 | 20.7936 | 2.13542 | 6.75278 | 94.8188 | 1.65827 | 3.57263 | 7.69700 | .219298 |
| 4.57 | 20.8849 | 2.13776 | 6.76018 | 95.4440 | 1.65948 | 3.57524 | 7.70262 | .218818 |
| 4.58 | 20.9764 | 2.14009 | 6.76757 | 96.0719 | 1.66069 | 3.57785 | 7.70824 | .218341 |
| 4.59 | 21.0681 | 2.14243 | 6.77495 | 96.7026 | 1.66190 | 3.58045 | 7.71384 | .217865 |
| 4.60 | 21.1600 | 2.14476 | 6.78233 | 97.3360 | 1.66310 | 3.58305 | 7.71944 | .217391 |
| 4.61 | 21.2521 | 2.14709 | 6.78970 | 97.9722 | 1.66431 | 3.58564 | 7.72503 | .216920 |
| 4.62 | 21.3444 | 2.14942 | 6.79706 | 98.6111 | 1.66551 | 3.58823 | 7.73061 | .216450 |
| 4.63 | 21.4369 | 2.15174 | 6.80441 | 99.2528 | 1.66671 | 3.59082 | 7.73619 | .215983 |
| 4.64 | 21.5296 | 2.15407 | 6.81175 | 99.8973 | 1.66791 | 3.59340 | 7.74175 | .215517 |
| 4.65 | 21.6225 | 2.15639 | 6.81909 | 100.545 | 1.66911 | 3.59598 | 7.74731 | .215054 |
| 4.66 | 21.7156 | 2.15870 | 6.82642 | 101.195 | 1.67030 | 3.59856 | 7.75286 | .214592 |
| 4.67 | 21.8089 | 2.16102 | 6.83374 | 101.848 | 1.67150 | 3.60113 | 7.75840 | .214133 |
| 4.68 | 21.9024 | 2.16333 | 6.84105 | 102.503 | 1.67269 | 3.60370 | 7.76394 | .213675 |
| 4.69 | 21.9961 | 2.16564 | 6.84836 | 103.162 | 1.67388 | 3.60626 | 7.76946 | .213220 |
| 4.70 | 22.0900 | 2.16795 | 6.85565 | 103.823 | 1.67507 | 3.60883 | 7.77498 | .212766 |
| 4.71 | 22.1841 | 2.17025 | 6.86294 | 104.487 | 1.67626 | 3.61138 | 7.78049 | .212314 |
| 4.72 | 22.2784 | 2.17256 | 6.87023 | 105.154 | 1.67744 | 3.61394 | 7.78599 | .211864 |
| 4.73 | 22.3729 | 2.17486 | 6.87750 | 105.824 | 1.67863 | 3.61649 | 7.79149 | .211416 |
| 4.74 | 22.4676 | 2.17715 | 6.88477 | 106.496 | 1.67981 | 3.61903 | 7.79697 | .210970 |
| 4.75 | 22.5625 | 2.17945 | 6.89202 | 107.172 | 1.68099 | 3.62158 | 7.80245 | .210526 |
| 4.76 | 22.6576 | 2.18174 | 6.89928 | 107.850 | 1.68217 | 3.62412 | 7.80793 | .210084 |
| 4.77 | 22.7529 | 2.18403 | 6.90652 | 108.531 | 1.68334 | 3.62665 | 7.81339 | .209644 |
| 4.78 | 22.8484 | 2.18632 | 6.91375 | 109.215 | 1.68452 | 3.62919 | 7.81885 | .209205 |
| 4.79 | 22.9441 | 2.18861 | 6.92098 | 109.902 | 1.68569 | 3.63172 | 7.82429 | .208768 |
| 4.80 | 23.0400 | 2.19089 | 6.92820 | 110.592 | 1.68687 | 3.63424 | 7.82974 | .208333 |
| 4.81 | 23.1361 | 2.19317 | 6.93542 | 111.285 | 1.68804 | 3.63676 | 7.83517 | .207900 |
| 4.82 | 23.2324 | 2.19545 | 6.94262 | 111.980 | 1.68920 | 3.63928 | 7.84059 | .207469 |
| 4.83 | 23.3289 | 2.19773 | 6.94982 | 112.679 | 1.69037 | 3.64180 | 7.84601 | .207039 |
| 4.84 | 23.4256 | 2.20000 | 6.95701 | 113.380 | 1.69154 | 3.64431 | 7.85142 | .206612 |
| 4.85 | 23.5225 | 2.20227 | 6.96419 | 114.084 | 1.69270 | 3.64682 | 7.85683 | .206186 |
| 4.86 | 23.6196 | 2.20454 | 6.97137 | 114.791 | 1.69386 | 3.64932 | 7.86222 | .205761 |
| 4.87 | 23.7169 | 2.20681 | 6.97854 | 115.501 | 1.69503 | 3.65182 | 7.86761 | .205339 |
| 4.88 | 23.8144 | 2.20907 | 6.98570 | 116.214 | 1.69619 | 3.65432 | 7.87299 | .204918 |
| 4.89 | 23.9121 | 2.21133 | 6.99285 | 116.930 | 1.69734 | 3.65681 | 7.87837 | .204499 |
| 4.90 | 24.0100 | 2.21359 | 7.00000 | 117.649 | 1.69850 | 3.65931 | 7.88374 | .204082 |
| 4.91 | 24.1081 | 2.21585 | 7.00714 | 118.371 | 1.69965 | 3.66179 | 7.88909 | .203666 |
| 4.92 | 24.2064 | 2.21811 | 7.01427 | 119.095 | 1.70081 | 3.66428 | 7.89445 | .203252 |
| 4.93 | 24.3049 | 2.22036 | 7.02140 | 119.823 | 1.70196 | 3.66676 | 7.89979 | .202840 |
| 4.94 | 24.4036 | 2.22261 | 7.02851 | 120.554 | 1.70311 | 3.66924 | 7.90513 | .202429 |
| 4.95 | 24.5025 | 2.22486 | 7.03562 | 121.287 | 1.70426 | 3.67171 | 7.91046 | .202020 |
| 4.96 | 24.6016 | 2.22711 | 7.04273 | 122.024 | 1.70540 | 3.67418 | 7.91578 | .201613 |
| 4.97 | 24.7009 | 2.22935 | 7.04982 | 122.763 | 1.70655 | 3.67665 | 7.92110 | .201207 |
| 4.98 | 24.8004 | 2.23159 | 7.05691 | 123.506 | 1.70769 | 3.67911 | 7.92641 | .200803 |
| 4.99 | 24.9001 | 2.23383 | 7.06399 | 124.251 | 1.70884 | 3.68157 | 7.93171 | .200401 |
| 5.00 | 25.0000 | 2.23607 | 7.07107 | 125.000 | 1.70998 | 3.68403 | 7.93701 | .200000 |
| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |

| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |
|-------------|---------|------------|--------------|---------|---------------|-----------------|------------------|---------|
| 5.00 | 25.0000 | 2.23607 | 7.07107 | 125.000 | 1.70998 | 3.68403 | 7.93701 | .200000 |
| 5.01 | 25.1001 | 2.23830 | 7.07814 | 125.752 | 1.71112 | 3.68649 | 7.94229 | .199601 |
| 5.02 | 25.2004 | 2.24054 | 7.08520 | 126.506 | 1.71225 | 3.68894 | 7.94757 | .199203 |
| 5.03 | 25.3009 | 2.24277 | 7.09225 | 127.264 | 1.71339 | 3.69138 | 7.95285 | .198807 |
| 5.04 | 25.4016 | 2.24499 | 7.09930 | 128.024 | 1.71452 | 3.69383 | 7.95811 | .198413 |
| 5.05 | 25.5025 | 2.24722 | 7.10634 | 128.788 | 1.71566 | 3.69627 | 7.96337 | .198020 |
| 5.06 | 25.6036 | 2.24944 | 7.11337 | 129.554 | 1.71679 | 3.69871 | 7.96863 | .197628 |
| 5.07 | 25.7049 | 2.25167 | 7.12039 | 130.324 | 1.71792 | 3.70114 | 7.97387 | .197239 |
| 5.08 | 25.8064 | 2.25389 | 7.12741 | 131.097 | 1.71905 | 3.70357 | 7.97911 | .196850 |
| 5.09 | 25.9081 | 2.25610 | 7.13442 | 131.872 | 1.72017 | 3.70600 | 7.98434 | .196464 |
| 5.10 | 26.0100 | 2.25832 | 7.14143 | 132.651 | 1.72130 | 3.70843 | 7.98957 | .196078 |
| 5.11 | 26.1121 | 2.26053 | 7.14843 | 133.433 | 1.72242 | 3.71085 | 7.99479 | .195695 |
| 5.12 | 26.2144 | 2.26274 | 7.15542 | 134.218 | 1.72355 | 3.71327 | 8.00000 | .195312 |
| 5.13 | 26.3169 | 2.26495 | 7.16240 | 135.006 | 1.72467 | 3.71569 | 8.00520 | .194932 |
| 5.14 | 26.4196 | 2.26716 | 7.16938 | 135.797 | 1.72579 | 3.71810 | 8.01040 | .194553 |
| 5.15 | 26.5225 | 2.26936 | 7.17635 | 136.591 | 1.72691 | 3.72051 | 8.01559 | .194175 |
| 5.16 | 26.6256 | 2.27156 | 7.18331 | 137.388 | 1.72802 | 3.72292 | 8.02078 | .193798 |
| 5.17 | 26.7289 | 2.27376 | 7.19027 | 138.188 | 1.72914 | 3.72532 | 8.02596 | .193424 |
| 5.18 | 26.8324 | 2.27596 | 7.19722 | 138.992 | 1.73025 | 3.72772 | 8.03113 | .193050 |
| 5.19 | 26.9361 | 2.27816 | 7.20417 | 139.798 | 1.73137 | 3.73012 | 8.03629 | .192678 |
| 5.20 | 27.0400 | 2.28035 | 7.21110 | 140.608 | 1.73248 | 3.73251 | 8.04145 | .192308 |
| 5.21 | 27.1441 | 2.28254 | 7.21803 | 141.421 | 1.73359 | 3.73490 | 8.04660 | .191939 |
| 5.22 | 27.2484 | 2.28473 | 7.22496 | 142.237 | 1.73470 | 3.73729 | 8.05175 | .191571 |
| 5.23 | 27.3529 | 2.28692 | 7.23187 | 143.056 | 1.73580 | 3.73968 | 8.05689 | .191205 |
| 5.24 | 27.4576 | 2.28910 | 7.23878 | 143.878 | 1.73691 | 3.74206 | 8.06202 | .190840 |
| 5.25 | 27.5625 | 2.29129 | 7.24569 | 144.703 | 1.73801 | 3.74443 | 8.06714 | .190476 |
| 5.26 | 27.6676 | 2.29347 | 7.25259 | 145.532 | 1.73912 | 3.74681 | 8.07226 | .190114 |
| 5.27 | 27.7729 | 2.29565 | 7.25948 | 146.363 | 1.74022 | 3.74918 | 8.07737 | .189753 |
| 5.28 | 27.8784 | 2.29783 | 7.26636 | 147.198 | 1.74132 | 3.75155 | 8.08248 | .189394 |
| 5.29 | 27.9841 | 2.30000 | 7.27324 | 148.036 | 1.74242 | 3.75392 | 8.08758 | .189036 |
| 5.30 | 28.0900 | 2.30217 | 7.28011 | 148.877 | 1.74351 | 3.75629 | 8.09267 | .188679 |
| 5.31 | 28.1961 | 2.30434 | 7.28697 | 149.721 | 1.74461 | 3.75865 | 8.09776 | .188324 |
| 5.32 | 28.3024 | 2.30651 | 7.29383 | 150.569 | 1.74570 | 3.76101 | 8.10284 | .187970 |
| 5.33 | 28.4089 | 2.30868 | 7.30068 | 151.419 | 1.74680 | 3.76336 | 8.10791 | .187617 |
| 5.34 | 28.5156 | 2.31084 | 7.30753 | 152.273 | 1.74789 | 3.76571 | 8.11298 | .187266 |
| 5.35 | 28.6225 | 2.31301 | 7.31437 | 153.130 | 1.74898 | 3.76806 | 8.11804 | .186916 |
| 5.36 | 28.7296 | 2.31517 | 7.32120 | 153.991 | 1.75007 | 3.77041 | 8.12310 | .186567 |
| 5.37 | 28.8369 | 2.31733 | 7.32803 | 154.854 | 1.75116 | 3.77275 | 8.12814 | .186220 |
| 5.38 | 28.9444 | 2.31948 | 7.33485 | 155.721 | 1.75224 | 3.77509 | 8.13319 | .185874 |
| 5.39 | 29.0521 | 2.32164 | 7.34166 | 156.591 | 1.75333 | 3.77743 | 8.13822 | .185529 |
| 5.40 | 29.1600 | 2.32379 | 7.34847 | 157.464 | 1.75441 | 3.77976 | 8.14325 | .185185 |
| 5.41 | 29.2681 | 2.32594 | 7.35527 | 158.340 | 1.75549 | 3.78209 | 8.14828 | .184843 |
| 5.42 | 29.3764 | 2.32809 | 7.36206 | 159.220 | 1.75657 | 3.78442 | 8.15329 | .184502 |
| 5.43 | 29.4849 | 2.33024 | 7.36885 | 160.103 | 1.75765 | 3.78675 | 8.15831 | .184162 |
| 5.44 | 29.5936 | 2.33238 | 7.37564 | 160.989 | 1.75873 | 3.78907 | 8.16331 | .183824 |
| 5.45 | 29.7025 | 2.33452 | 7.38241 | 161.879 | 1.75981 | 3.79139 | 8.16831 | .183486 |
| 5.46 | 29.8116 | 2.33666 | 7.38918 | 162.771 | 1.76088 | 3.79371 | 8.17330 | .183150 |
| 5.47 | 29.9209 | 2.33880 | 7.39594 | 163.667 | 1.76196 | 3.79603 | 8.17829 | .182815 |
| 5.48 | 30.0304 | 2.34094 | 7.40270 | 164.567 | 1.76303 | 3.79834 | 8.18327 | .182482 |
| 5.49 | 30.1401 | 2.34307 | 7.40945 | 165.469 | 1.76410 | 3.80065 | 8.18824 | .182149 |
| 5.50 | 30.2500 | 2.34521 | 7.41620 | 166.375 | 1.76517 | 3.80295 | 8.19321 | .181818 |
| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |

| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |
|-------------|---------|------------|--------------|---------|---------------|-----------------|------------------|---------|
| 5.50 | 30.2500 | 2.34521 | 7.41620 | 166.375 | 1.76517 | 3.80295 | 8.19321 | .181818 |
| 5.51 | 30.3601 | 2.34734 | 7.42294 | 167.284 | 1.76624 | 3.80526 | 8.19818 | .181488 |
| 5.52 | 30.4704 | 2.34947 | 7.42967 | 168.197 | 1.76731 | 3.80756 | 8.20313 | .181159 |
| 5.53 | 30.5809 | 2.35160 | 7.43640 | 169.112 | 1.76838 | 3.80985 | 8.20808 | .180832 |
| 5.54 | 30.6916 | 2.35372 | 7.44312 | 170.031 | 1.76944 | 3.81215 | 8.21303 | .180505 |
| 5.55 | 30.8025 | 2.35584 | 7.44983 | 170.954 | 1.77051 | 3.81444 | 8.21797 | .180180 |
| 5.56 | 30.9136 | 2.35797 | 7.45654 | 171.880 | 1.77157 | 3.81673 | 8.22290 | .179856 |
| 5.57 | 31.0249 | 2.36008 | 7.46324 | 172.809 | 1.77263 | 3.81902 | 8.22783 | .179533 |
| 5.58 | 31.1364 | 2.36220 | 7.46994 | 173.741 | 1.77369 | 3.82130 | 8.23275 | .179211 |
| 5.59 | 31.2481 | 2.36432 | 7.47663 | 174.677 | 1.77475 | 3.82358 | 8.23766 | .178891 |
| 5.60 | 31.3600 | 2.36643 | 7.48331 | 175.616 | 1.77581 | 3.82586 | 8.24257 | .178571 |
| 5.61 | 31.4721 | 2.36854 | 7.48999 | 176.558 | 1.77686 | 3.82814 | 8.24747 | .178253 |
| 5.62 | 31.5844 | 2.37065 | 7.49667 | 177.504 | 1.77792 | 3.83041 | 8.25237 | .177936 |
| 5.63 | 31.6969 | 2.37276 | 7.50333 | 178.454 | 1.77897 | 3.83268 | 8.25726 | .177620 |
| 5.64 | 31.8096 | 2.37487 | 7.50999 | 179.406 | 1.78003 | 3.83495 | 8.26215 | .177305 |
| 5.65 | 31.9225 | 2.37697 | 7.51665 | 180.362 | 1.78108 | 3.83722 | 8.26703 | .176991 |
| 5.66 | 32.0356 | 2.37908 | 7.52330 | 181.321 | 1.78213 | 3.83948 | 8.27190 | .176678 |
| 5.67 | 32.1489 | 2.38118 | 7.52994 | 182.284 | 1.78318 | 3.84174 | 8.27677 | .176367 |
| 5.68 | 32.2624 | 2.38328 | 7.53658 | 183.250 | 1.78422 | 3.84399 | 8.28164 | .176056 |
| 5.69 | 32.3761 | 2.38537 | 7.54321 | 184.220 | 1.78527 | 3.84625 | 8.28649 | .175747 |
| 5.70 | 32.4900 | 2.38747 | 7.54983 | 185.193 | 1.78632 | 3.84850 | 8.29134 | .175439 |
| 5.71 | 32.6041 | 2.38956 | 7.55645 | 186.169 | 1.78736 | 3.85075 | 8.29619 | .175131 |
| 5.72 | 32.7184 | 2.39165 | 7.56307 | 187.149 | 1.78840 | 3.85300 | 8.30103 | .174825 |
| 5.73 | 32.8329 | 2.39374 | 7.56968 | 188.133 | 1.78944 | 3.85524 | 8.30587 | .174520 |
| 5.74 | 32.9476 | 2.39583 | 7.57628 | 189.119 | 1.79048 | 3.85748 | 8.31069 | .174216 |
| 5.75 | 33.0625 | 2.39792 | 7.58288 | 190.109 | 1.79152 | 3.85972 | 8.31552 | .173913 |
| 5.76 | 33.1776 | 2.40000 | 7.58947 | 191.103 | 1.79256 | 3.86196 | 8.32034 | .173611 |
| 5.77 | 33.2929 | 2.40208 | 7.59605 | 192.100 | 1.79360 | 3.86419 | 8.32515 | .173310 |
| 5.78 | 33.4084 | 2.40416 | 7.60263 | 193.101 | 1.79463 | 3.86642 | 8.32995 | .173010 |
| 5.79 | 33.5241 | 2.40624 | 7.60920 | 194.105 | 1.79567 | 3.86865 | 8.33476 | .172712 |
| 5.80 | 33.6400 | 2.40832 | 7.61577 | 195.112 | 1.79670 | 3.87088 | 8.33955 | .172414 |
| 5.81 | 33.7561 | 2.41039 | 7.62234 | 196.123 | 1.79773 | 3.87310 | 8.34434 | .172117 |
| 5.82 | 33.8724 | 2.41247 | 7.62889 | 197.137 | 1.79876 | 3.87532 | 8.34913 | .171821 |
| 5.83 | 33.9889 | 2.41454 | 7.63544 | 198.155 | 1.79979 | 3.87754 | 8.35390 | .171527 |
| 5.84 | 34.1056 | 2.41661 | 7.64199 | 199.177 | 1.80082 | 3.87975 | 8.35868 | .171233 |
| 5.85 | 34.2225 | 2.41868 | 7.64853 | 200.202 | 1.80185 | 3.88197 | 8.36345 | .170940 |
| 5.86 | 34.3396 | 2.42074 | 7.65506 | 201.230 | 1.80288 | 3.88418 | 8.36821 | .170649 |
| 5.87 | 34.4569 | 2.42281 | 7.66159 | 202.262 | 1.80390 | 3.88639 | 8.37297 | .170358 |
| 5.88 | 34.5744 | 2.42487 | 7.66812 | 203.297 | 1.80492 | 3.88859 | 8.37772 | .170068 |
| 5.89 | 34.6921 | 2.42693 | 7.67463 | 204.336 | 1.80595 | 3.89080 | 8.38247 | .169779 |
| 5.90 | 34.8100 | 2.42899 | 7.68115 | 205.379 | 1.80697 | 3.89300 | 8.38721 | .169492 |
| 5.91 | 34.9281 | 2.43105 | 7.68765 | 206.425 | 1.80799 | 3.89519 | 8.39194 | .169205 |
| 5.92 | 35.0464 | 2.43311 | 7.69415 | 207.475 | 1.80901 | 3.89739 | 8.39667 | .168919 |
| 5.93 | 35.1649 | 2.43516 | 7.70065 | 208.528 | 1.81003 | 3.89958 | 8.40140 | .168634 |
| 5.94 | 35.2836 | 2.43721 | 7.70714 | 209.585 | 1.81104 | 3.90177 | 8.40612 | .168350 |
| 5.95 | 35.4025 | 2.43926 | 7.71362 | 210.645 | 1.81206 | 3.90396 | 8.41083 | .168067 |
| 5.96 | 35.5216 | 2.44131 | 7.72010 | 211.709 | 1.81307 | 3.90615 | 8.41554 | .167785 |
| 5.97 | 35.6409 | 2.44336 | 7.72658 | 212.776 | 1.81409 | 3.90833 | 8.42025 | .167504 |
| 5.98 | 35.7604 | 2.44540 | 7.73305 | 213.847 | 1.81510 | 3.91051 | 8.42494 | .167224 |
| 5.99 | 35.8801 | 2.44745 | 7.73951 | 214.922 | 1.81611 | 3.91269 | 8.42964 | .166945 |
| 6.00 | 36.0000 | 2.44949 | 7.74597 | 216.000 | 1.81712 | 3.91487 | 8.43433 | .166667 |
| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |

| n | n^2 | \sqrt{n} | $\sqrt{10\,n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10\,n}$ | $\sqrt[3]{100\,n}$ | $1/n$ |
|-------------|---------|------------|----------------|---------|---------------|-------------------|--------------------|---------|
| 6.00 | 36.0000 | 2.44949 | 7.74597 | 216.000 | 1.81712 | 3.91487 | 8.43433 | .166667 |
| 6.01 | 36.1201 | 2.45153 | 7.75242 | 217.082 | 1.81813 | 3.91704 | 8.43901 | .166389 |
| 6.02 | 36.2404 | 2.45357 | 7.75887 | 218.167 | 1.81914 | 3.91921 | 8.44369 | .166113 |
| 6.03 | 36.3609 | 2.45561 | 7.76531 | 219.256 | 1.82014 | 3.92138 | 8.44836 | .165837 |
| 6.04 | 36.4816 | 2.45764 | 7.77174 | 220.349 | 1.82115 | 3.92355 | 8.45303 | .165563 |
| 6.05 | 36.6025 | 2.45967 | 7.77817 | 221.445 | 1.82215 | 3.92571 | 8.45769 | .165289 |
| 6.06 | 36.7236 | 2.46171 | 7.78460 | 222.545 | 1.82316 | 3.92787 | 8.46235 | .165017 |
| 6.07 | 36.8449 | 2.46374 | 7.79102 | 223.649 | 1.82416 | 3.93003 | 8.46700 | .164745 |
| 6.08 | 36.9664 | 2.46577 | 7.79744 | 224.756 | 1.82516 | 3.93219 | 8.47165 | .164474 |
| 6.09 | 37.0881 | 2.46779 | 7.80385 | 225.867 | 1.82616 | 3.93434 | 8.47629 | .164204 |
| 6.10 | 37.2100 | 2.46982 | 7.81025 | 226.981 | 1.82716 | 3.93650 | 8.48093 | .163934 |
| 6.11 | 37.3321 | 2.47184 | 7.81665 | 228.099 | 1.82816 | 3.93865 | 8.48556 | .163666 |
| 6.12 | 37.4544 | 2.47386 | 7.82304 | 229.221 | 1.82915 | 3.94079 | 8.49018 | .163399 |
| 6.13 | 37.5769 | 2.47588 | 7.82943 | 230.346 | 1.83015 | 3.94294 | 8.49481 | .163132 |
| 6.14 | 37.6996 | 2.47790 | 7.83582 | 231.476 | 1.83115 | 3.94508 | 8.49942 | .162866 |
| 6.15 | 37.8225 | 2.47992 | 7.84219 | 232.608 | 1.83214 | 3.94722 | 8.50403 | .162602 |
| 6.16 | 37.9456 | 2.48193 | 7.84857 | 233.745 | 1.83313 | 3.94936 | 8.50864 | .162338 |
| 6.17 | 38.0689 | 2.48395 | 7.85493 | 234.885 | 1.83412 | 3.95150 | 8.51324 | .162075 |
| 6.18 | 38.1924 | 2.48596 | 7.86130 | 236.029 | 1.83511 | 3.95363 | 8.51784 | .161812 |
| 6.19 | 38.3161 | 2.48797 | 7.86766 | 237.177 | 1.83610 | 3.95576 | 8.52243 | .161551 |
| 6.20 | 38.4400 | 2.48998 | 7.87401 | 238.328 | 1.83709 | 3.95789 | 8.52702 | .161290 |
| 6.21 | 38.5641 | 2.49199 | 7.88036 | 239.483 | 1.83808 | 3.96002 | 8.53160 | .161031 |
| 6.22 | 38.6884 | 2.49399 | 7.88670 | 240.642 | 1.83906 | 3.96214 | 8.53618 | .160772 |
| 6.23 | 38.8129 | 2.49600 | 7.89303 | 241.804 | 1.84005 | 3.96427 | 8.54075 | .160514 |
| 6.24 | 38.9376 | 2.49800 | 7.89937 | 242.971 | 1.84103 | 3.96638 | 8.54532 | .160256 |
| 6.25 | 39.0625 | 2.50000 | 7.90569 | 244.141 | 1.84202 | 3.96850 | 8.54988 | .160000 |
| 6.26 | 39.1876 | 2.50200 | 7.91202 | 245.314 | 1.84300 | 3.97062 | 8.55444 | .159744 |
| 6.27 | 39.3129 | 2.50400 | 7.91833 | 246.492 | 1.84398 | 3.97273 | 8.55899 | .159490 |
| 6.28 | 39.4384 | 2.50599 | 7.92465 | 247.673 | 1.84496 | 3.97484 | 8.56354 | .159236 |
| 6.29 | 39.5641 | 2.50799 | 7.93095 | 248.858 | 1.84594 | 3.97695 | 8.56808 | .158983 |
| 6.30 | 39.6900 | 2.50998 | 7.93725 | 250.047 | 1.84691 | 3.97906 | 8.57262 | .158730 |
| 6.31 | 39.8161 | 2.51197 | 7.94355 | 251.240 | 1.84789 | 3.98116 | 8.57715 | .158479 |
| 6.32 | 39.9424 | 2.51396 | 7.94984 | 252.436 | 1.84887 | 3.98326 | 8.58168 | .158228 |
| 6.33 | 40.0689 | 2.51595 | 7.95613 | 253.636 | 1.84984 | 3.98536 | 8.58620 | .157978 |
| 6.34 | 40.1956 | 2.51794 | 7.96241 | 254.840 | 1.85082 | 3.98746 | 8.59072 | .157729 |
| 6.35 | 40.3225 | 2.51992 | 7.96869 | 256.048 | 1.85179 | 3.98956 | 8.59524 | .157480 |
| 6.36 | 40.4496 | 2.52190 | 7.97496 | 257.259 | 1.85276 | 3.99165 | 8.59975 | .157233 |
| 6.37 | 40.5769 | 2.52389 | 7.98123 | 258.475 | 1.85373 | 3.99374 | 8.60425 | .156986 |
| 6.38 | 40.7044 | 2.52587 | 7.98749 | 259.694 | 1.85470 | 3.99583 | 8.60875 | .156740 |
| 6.39 | 40.8321 | 2.52784 | 7.99375 | 260.917 | 1.85567 | 3.99792 | 8.61325 | .156495 |
| 6.40 | 40.9600 | 2.52982 | 8.00000 | 262.144 | 1.85664 | 4.00000 | 8.61774 | .156250 |
| 6.41 | 41.0881 | 2.53180 | 8.00625 | 263.375 | 1.85760 | 4.00208 | 8.62222 | .156006 |
| 6.42 | 41.2164 | 2.53377 | 8.01249 | 264.609 | 1.85857 | 4.00416 | 8.62671 | .155763 |
| 6.43 | 41.3449 | 2.53574 | 8.01873 | 265.848 | 1.85953 | 4.00624 | 8.63118 | .155521 |
| 6.44 | 41.4736 | 2.53772 | 8.02496 | 267.090 | 1.86050 | 4.00832 | 8.63566 | .155280 |
| 6.45 | 41.6025 | 2.53969 | 8.03119 | 268.336 | 1.86146 | 4.01039 | 8.64012 | .155039 |
| 6.46 | 41.7316 | 2.54165 | 8.03741 | 269.586 | 1.86242 | 4.01246 | 8.64459 | .154799 |
| 6.47 | 41.8609 | 2.54362 | 8.04363 | 270.840 | 1.86338 | 4.01453 | 8.64904 | .154560 |
| 6.48 | 41.9904 | 2.54558 | 8.04984 | 272.098 | 1.86434 | 4.01660 | 8.65350 | .154321 |
| 6.49 | 42.1201 | 2.54755 | 8.05605 | 273.359 | 1.86530 | 4.01866 | 8.65795 | .154083 |
| 6.50 | 42.2500 | 2.54951 | 8.06226 | 274.625 | 1.86626 | 4.02073 | 8.66239 | .153846 |
| n | n^2 | \sqrt{n} | $\sqrt{10\,n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10\,n}$ | $\sqrt[3]{100\,n}$ | $1/n$ |

| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |
|-------------|---------|------------|--------------|---------|---------------|-----------------|------------------|---------|
| 6.50 | 42.2500 | 2.54951 | 8.06226 | 274.625 | 1.86626 | 4.02073 | 8.66239 | .153846 |
| 6.51 | 42.3801 | 2.55147 | 8.06846 | 275.894 | 1.86721 | 4.02279 | 8.66683 | .153610 |
| 6.52 | 42.5104 | 2.55343 | 8.07465 | 277.168 | 1.86817 | 4.02485 | 8.67127 | .153374 |
| 6.53 | 42.6409 | 2.55539 | 8.08084 | 278.445 | 1.86912 | 4.02690 | 8.67570 | .153139 |
| 6.54 | 42.7716 | 2.55734 | 8.08703 | 279.726 | 1.87008 | 4.02896 | 8.68012 | .152905 |
| 6.55 | 42.9025 | 2.55930 | 8.09321 | 281.011 | 1.87103 | 4.03101 | 8.68455 | .152671 |
| 6.56 | 43.0336 | 2.56125 | 8.09938 | 282.300 | 1.87198 | 4.03306 | 8.68896 | .152439 |
| 6.57 | 43.1649 | 2.56320 | 8.10555 | 283.593 | 1.87293 | 4.03511 | 8.69338 | .152207 |
| 6.58 | 43.2964 | 2.56515 | 8.11172 | 284.890 | 1.87388 | 4.03715 | 8.69778 | .151976 |
| 6.59 | 43.4281 | 2.56710 | 8.11788 | 286.191 | 1.87483 | 4.03920 | 8.70219 | .151745 |
| 6.60 | 43.5600 | 2.56905 | 8.12404 | 287.496 | 1.87578 | 4.04124 | 8.70659 | .151515 |
| 6.61 | 43.6921 | 2.57099 | 8.13019 | 288.805 | 1.87672 | 4.04328 | 8.71098 | .151286 |
| 6.62 | 43.8244 | 2.57294 | 8.13634 | 290.118 | 1.87767 | 4.04532 | 8.71537 | .151057 |
| 6.63 | 43.9569 | 2.57488 | 8.14248 | 291.434 | 1.87862 | 4.04735 | 8.71976 | .150830 |
| 6.64 | 44.0896 | 2.57682 | 8.14862 | 292.755 | 1.87956 | 4.04939 | 8.72414 | .150602 |
| 6.65 | 44.2225 | 2.57876 | 8.15475 | 294.080 | 1.88050 | 4.05142 | 8.72852 | .150376 |
| 6.66 | 44.3556 | 2.58070 | 8.16088 | 295.408 | 1.88144 | 4.05345 | 8.73289 | .150150 |
| 6.67 | 44.4889 | 2.58263 | 8.16701 | 296.741 | 1.88239 | 4.05548 | 8.73726 | .149925 |
| 6.68 | 44.6224 | 2.58457 | 8.17313 | 298.078 | 1.88333 | 4.05750 | 8.74162 | .149701 |
| 6.69 | 44.7561 | 2.58650 | 8.17924 | 299.418 | 1.88427 | 4.05953 | 8.74598 | .149477 |
| 6.70 | 44.8900 | 2.58844 | 8.18535 | 300.763 | 1.88520 | 4.06155 | 8.75034 | .149254 |
| 6.71 | 45.0241 | 2.59037 | 8.19146 | 302.112 | 1.88614 | 4.06357 | 8.75469 | .149031 |
| 6.72 | 45.1584 | 2.59230 | 8.19756 | 303.464 | 1.88708 | 4.06559 | 8.75904 | .148810 |
| 6.73 | 45.2929 | 2.59422 | 8.20366 | 304.821 | 1.88801 | 4.06760 | 8.76338 | .148588 |
| 6.74 | 45.4276 | 2.59615 | 8.20975 | 306.182 | 1.88895 | 4.06961 | 8.76772 | .148368 |
| 6.75 | 45.5625 | 2.59808 | 8.21584 | 307.547 | 1.88988 | 4.07163 | 8.77205 | .148148 |
| 6.76 | 45.6976 | 2.60000 | 8.22192 | 308.916 | 1.89081 | 4.07364 | 8.77638 | .147929 |
| 6.77 | 45.8329 | 2.60192 | 8.22800 | 310.289 | 1.89175 | 4.07564 | 8.78071 | .147710 |
| 6.78 | 45.9684 | 2.60384 | 8.23408 | 311.666 | 1.89268 | 4.07765 | 8.78503 | .147493 |
| 6.79 | 46.1041 | 2.60576 | 8.24015 | 313.047 | 1.89361 | 4.07965 | 8.78935 | .147275 |
| 6.80 | 46.2400 | 2.60768 | 8.24621 | 314.432 | 1.89454 | 4.08166 | 8.79366 | .147059 |
| 6.81 | 46.3761 | 2.60960 | 8.25227 | 315.821 | 1.89546 | 4.08365 | 8.79797 | .146843 |
| 6.82 | 46.5124 | 2.61151 | 8.25833 | 317.215 | 1.89639 | 4.08565 | 8.80227 | .146628 |
| 6.83 | 46.6489 | 2.61343 | 8.26438 | 318.612 | 1.89732 | 4.08765 | 8.80657 | .146413 |
| 6.84 | 46.7856 | 2.61534 | 8.27043 | 320.014 | 1.89824 | 4.08964 | 8.81087 | .146199 |
| 6.85 | 46.9225 | 2.61725 | 8.27647 | 321.419 | 1.89917 | 4.09163 | 8.81516 | .145985 |
| 6.86 | 47.0596 | 2.61916 | 8.28251 | 322.829 | 1.90009 | 4.09362 | 8.81945 | .145773 |
| 6.87 | 47.1969 | 2.62107 | 8.28855 | 324.243 | 1.90102 | 4.09561 | 8.82373 | .145560 |
| 6.88 | 47.3344 | 2.62298 | 8.29458 | 325.661 | 1.90194 | 4.09760 | 8.82801 | .145349 |
| 6.89 | 47.4721 | 2.62488 | 8.30060 | 327.083 | 1.90286 | 4.09958 | 8.83228 | .145138 |
| 6.90 | 47.6100 | 2.62679 | 8.30662 | 328.509 | 1.90378 | 4.10157 | 8.83656 | .144928 |
| 6.91 | 47.7481 | 2.62869 | 8.31264 | 329.939 | 1.90470 | 4.10355 | 8.84082 | .144718 |
| 6.92 | 47.8864 | 2.63059 | 8.31865 | 331.374 | 1.90562 | 4.10552 | 8.84509 | .144509 |
| 6.93 | 48.0249 | 2.63249 | 8.32466 | 332.813 | 1.90653 | 4.10750 | 8.84934 | .144300 |
| 6.94 | 48.1636 | 2.63439 | 8.33067 | 334.255 | 1.90745 | 4.10948 | 8.85360 | .144092 |
| 6.95 | 48.3025 | 2.63629 | 8.33667 | 335.702 | 1.90837 | 4.11145 | 8.85785 | .143885 |
| 6.96 | 48.4416 | 2.63818 | 8.34266 | 337.154 | 1.90928 | 4.11342 | 8.86210 | .143678 |
| 6.97 | 48.5809 | 2.64008 | 8.34865 | 338.609 | 1.91019 | 4.11539 | 8.86634 | .143472 |
| 6.98 | 48.7204 | 2.64197 | 8.35464 | 340.068 | 1.91111 | 4.11736 | 8.87058 | .143266 |
| 6.99 | 48.8601 | 2.64386 | 8.36062 | 341.532 | 1.91202 | 4.11932 | 8.87481 | .143062 |
| 7.00 | 49.0000 | 2.64575 | 8.36660 | 343.000 | 1.91293 | 4.12129 | 8.87904 | .142857 |
| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |

| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |
|-------------|---------|------------|--------------|---------|---------------|-----------------|------------------|---------|
| 7.00 | 49.0000 | 2.64575 | 8.36660 | 343.000 | 1.91293 | 4.12129 | 8.87904 | .142857 |
| 7.01 | 49.1401 | 2.64764 | 8.37257 | 344.472 | 1.91384 | 4.12325 | 8.88327 | .142653 |
| 7.02 | 49.2804 | 2.64953 | 8.37854 | 345.948 | 1.91475 | 4.12521 | 8.88749 | .142450 |
| 7.03 | 49.4209 | 2.65141 | 8.38451 | 347.429 | 1.91566 | 4.12716 | 8.89171 | .142248 |
| 7.04 | 49.5616 | 2.65330 | 8.39047 | 348.914 | 1.91657 | 4.12912 | 8.89592 | .142045 |
| 7.05 | 49.7025 | 2.65518 | 8.39643 | 350.403 | 1.91747 | 4.13107 | 8.90013 | .141844 |
| 7.06 | 49.8436 | 2.65707 | 8.40238 | 351.896 | 1.91838 | 4.13303 | 8.90434 | .141643 |
| 7.07 | 49.9849 | 2.65895 | 8.40833 | 353.393 | 1.91929 | 4.13498 | 8.90854 | .141443 |
| 7.08 | 50.1264 | 2.66083 | 8.41427 | 354.895 | 1.92019 | 4.13693 | 8.91274 | .141243 |
| 7.09 | 50.2681 | 2.66271 | 8.42021 | 356.401 | 1.92109 | 4.13887 | 8.91693 | .141044 |
| 7.10 | 50.4100 | 2.66458 | 8.42615 | 357.911 | 1.92200 | 4.14082 | 8.92112 | .140845 |
| 7.11 | 50.5521 | 2.66646 | 8.43208 | 359.425 | 1.92290 | 4.14276 | 8.92531 | .140647 |
| 7.12 | 50.6944 | 2.66833 | 8.43801 | 360.944 | 1.92380 | 4.14470 | 8.92949 | .140449 |
| 7.13 | 50.8369 | 2.67021 | 8.44393 | 362.467 | 1.92470 | 4.14664 | 8.93367 | .140252 |
| 7.14 | 50.9796 | 2.67208 | 8.44985 | 363.994 | 1.92560 | 4.14858 | 8.93784 | .140056 |
| 7.15 | 51.1225 | 2.67395 | 8.45577 | 365.526 | 1.92650 | 4.15052 | 8.94201 | .139860 |
| 7.16 | 51.2656 | 2.67582 | 8.46168 | 367.062 | 1.92740 | 4.15245 | 8.94618 | .139665 |
| 7.17 | 51.4089 | 2.67769 | 8.46759 | 368.602 | 1.92829 | 4.15438 | 8.95034 | .139470 |
| 7.18 | 51.5524 | 2.67955 | 8.47349 | 370.146 | 1.92919 | 4.15631 | 8.95450 | .139276 |
| 7.19 | 51.6961 | 2.68142 | 8.47939 | 371.695 | 1.93008 | 4.15824 | 8.95866 | .139082 |
| 7.20 | 51.8400 | 2.68328 | 8.48528 | 373.248 | 1.93098 | 4.16017 | 8.96281 | .138889 |
| 7.21 | 51.9841 | 2.68514 | 8.49117 | 374.805 | 1.93187 | 4.16209 | 8.96696 | .138696 |
| 7.22 | 52.1284 | 2.68701 | 8.49706 | 376.367 | 1.93277 | 4.16402 | 8.97110 | .138504 |
| 7.23 | 52.2729 | 2.68887 | 8.50294 | 377.933 | 1.93366 | 4.16594 | 8.97524 | .138313 |
| 7.24 | 52.4176 | 2.69072 | 8.50882 | 379.503 | 1.93455 | 4.16786 | 8.97938 | .138122 |
| 7.25 | 52.5625 | 2.69258 | 8.51469 | 381.078 | 1.93544 | 4.16978 | 8.98351 | .137931 |
| 7.26 | 52.7076 | 2.69444 | 8.52056 | 382.657 | 1.93633 | 4.17169 | 8.98764 | .137741 |
| 7.27 | 52.8529 | 2.69629 | 8.52643 | 384.241 | 1.93722 | 4.17361 | 8.99176 | .137552 |
| 7.28 | 52.9984 | 2.69815 | 8.53229 | 385.828 | 1.93810 | 4.17552 | 8.99588 | .137363 |
| 7.29 | 53.1441 | 2.70000 | 8.53815 | 387.420 | 1.93899 | 4.17743 | 9.00000 | .137174 |
| 7.30 | 53.2900 | 2.70185 | 8.54400 | 389.017 | 1.93988 | 4.17934 | 9.00411 | .136986 |
| 7.31 | 53.4361 | 2.70370 | 8.54985 | 390.618 | 1.94076 | 4.18125 | 9.00822 | .136799 |
| 7.32 | 53.5824 | 2.70555 | 8.55570 | 392.223 | 1.94165 | 4.18315 | 9.01233 | .136612 |
| 7.33 | 53.7289 | 2.70740 | 8.56154 | 393.833 | 1.94253 | 4.18506 | 9.01643 | .136426 |
| 7.34 | 53.8756 | 2.70924 | 8.56738 | 395.447 | 1.94341 | 4.18696 | 9.02053 | .136240 |
| 7.35 | 54.0225 | 2.71109 | 8.57321 | 397.065 | 1.94430 | 4.18886 | 9.02462 | .136054 |
| 7.36 | 54.1696 | 2.71293 | 8.57904 | 398.688 | 1.94518 | 4.19076 | 9.02871 | .135870 |
| 7.37 | 54.3169 | 2.71477 | 8.58487 | 400.316 | 1.94606 | 4.19266 | 9.03280 | .135685 |
| 7.38 | 54.4644 | 2.71662 | 8.59069 | 401.947 | 1.94694 | 4.19455 | 9.03689 | .135501 |
| 7.39 | 54.6121 | 2.71846 | 8.59651 | 403.583 | 1.94782 | 4.19644 | 9.04097 | .135318 |
| 7.40 | 54.7600 | 2.72029 | 8.60233 | 405.224 | 1.94870 | 4.19834 | 9.04504 | .135135 |
| 7.41 | 54.9081 | 2.72213 | 8.60814 | 406.869 | 1.94957 | 4.20023 | 9.04911 | .134953 |
| 7.42 | 55.0564 | 2.72397 | 8.61394 | 408.518 | 1.95045 | 4.20212 | 9.05318 | .134771 |
| 7.43 | 55.2049 | 2.72580 | 8.61974 | 410.172 | 1.95132 | 4.20400 | 9.05725 | .134590 |
| 7.44 | 55.3536 | 2.72764 | 8.62554 | 411.831 | 1.95220 | 4.20589 | 9.06131 | .134409 |
| 7.45 | 55.5025 | 2.72947 | 8.63134 | 413.494 | 1.95307 | 4.20777 | 9.06537 | .134228 |
| 7.46 | 55.6516 | 2.73130 | 8.63713 | 415.161 | 1.95395 | 4.20965 | 9.06942 | .134048 |
| 7.47 | 55.8009 | 2.73313 | 8.64292 | 416.833 | 1.95482 | 4.21153 | 9.07347 | .133869 |
| 7.48 | 55.9504 | 2.73496 | 8.64870 | 418.509 | 1.95569 | 4.21341 | 9.07752 | .133690 |
| 7.49 | 56.1001 | 2.73679 | 8.65448 | 420.190 | 1.95656 | 4.21529 | 9.08156 | .133511 |
| 7.50 | 56.2500 | 2.73861 | 8.66025 | 421.875 | 1.95743 | 4.21716 | 9.08560 | .133333 |
| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |

| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |
|-------------|---------|------------|--------------|---------|---------------|-----------------|------------------|---------|
| 7.50 | 56.2500 | 2.73861 | 8.66025 | 421.875 | 1.95743 | 4.21716 | 9.08560 | .133333 |
| 7.51 | 56.4001 | 2.74044 | 8.66603 | 423.565 | 1.95830 | 4.21904 | 9.08964 | .133156 |
| 7.52 | 56.5504 | 2.74226 | 8.67179 | 425.259 | 1.95917 | 4.22091 | 9.09367 | .132979 |
| 7.53 | 56.7009 | 2.74408 | 8.67756 | 426.958 | 1.96004 | 4.22278 | 9.09770 | .132802 |
| 7.54 | 56.8516 | 2.74591 | 8.68332 | 428.661 | 1.96091 | 4.22465 | 9.10173 | .132626 |
| 7.55 | 57.0025 | 2.74773 | 8.68907 | 430.369 | 1.96177 | 4.22651 | 9.10575 | .132450 |
| 7.56 | 57.1536 | 2.74955 | 8.69483 | 432.081 | 1.96264 | 4.22838 | 9.10977 | .132275 |
| 7.57 | 57.3049 | 2.75136 | 8.70057 | 433.798 | 1.96350 | 4.23024 | 9.11378 | .132100 |
| 7.58 | 57.4564 | 2.75318 | 8.70632 | 435.520 | 1.96437 | 4.23210 | 9.11779 | .131926 |
| 7.59 | 57.6081 | 2.75500 | 8.71206 | 437.245 | 1.96523 | 4.23396 | 9.12180 | .131752 |
| 7.60 | 57.7600 | 2.75681 | 8.71780 | 438.976 | 1.96610 | 4.23582 | 9.12581 | .131579 |
| 7.61 | 57.9121 | 2.75862 | 8.72353 | 440.711 | 1.96696 | 4.23768 | 9.12981 | .131406 |
| 7.62 | 58.0644 | 2.76043 | 8.72926 | 442.451 | 1.96782 | 4.23954 | 9.13380 | .131234 |
| 7.63 | 58.2169 | 2.76225 | 8.73499 | 444.195 | 1.96868 | 4.24139 | 9.13780 | .131062 |
| 7.64 | 58.3696 | 2.76405 | 8.74071 | 445.944 | 1.96954 | 4.24324 | 9.14179 | .130890 |
| 7.65 | 58.5225 | 2.76586 | 8.74643 | 447.697 | 1.97040 | 4.24509 | 9.14577 | .130719 |
| 7.66 | 58.6756 | 2.76767 | 8.75214 | 449.455 | 1.97126 | 4.24694 | 9.14976 | .130548 |
| 7.67 | 58.8289 | 2.76948 | 8.75785 | 451.218 | 1.97211 | 4.24879 | 9.15374 | .130378 |
| 7.68 | 58.9824 | 2.77128 | 8.76356 | 452.985 | 1.97297 | 4.25063 | 9.15771 | .130208 |
| 7.69 | 59.1361 | 2.77308 | 8.76926 | 454.757 | 1.97383 | 4.25248 | 9.16169 | .130039 |
| 7.70 | 59.2900 | 2.77489 | 8.77496 | 456.533 | 1.97468 | 4.25432 | 9.16566 | .129870 |
| 7.71 | 59.4441 | 2.77669 | 8.78066 | 458.314 | 1.97554 | 4.25616 | 9.16962 | .129702 |
| 7.72 | 59.5984 | 2.77849 | 8.78635 | 460.100 | 1.97639 | 4.25800 | 9.17359 | .129534 |
| 7.73 | 59.7529 | 2.78029 | 8.79204 | 461.890 | 1.97724 | 4.25984 | 9.17754 | .129366 |
| 7.74 | 59.9076 | 2.78209 | 8.79773 | 463.685 | 1.97809 | 4.26167 | 9.18150 | .129199 |
| 7.75 | 60.0625 | 2.78388 | 8.80341 | 465.484 | 1.97895 | 4.26351 | 9.18545 | .129032 |
| 7.76 | 60.2176 | 2.78568 | 8.80909 | 467.289 | 1.97980 | 4.26534 | 9.18940 | .128866 |
| 7.77 | 60.3729 | 2.78747 | 8.81476 | 469.097 | 1.98065 | 4.26717 | 9.19335 | .128700 |
| 7.78 | 60.5284 | 2.78927 | 8.82043 | 470.911 | 1.98150 | 4.26900 | 9.19729 | .128535 |
| 7.79 | 60.6841 | 2.79106 | 8.82610 | 472.729 | 1.98234 | 4.27083 | 9.20123 | .128370 |
| 7.80 | 60.8400 | 2.79285 | 8.83176 | 474.552 | 1.98319 | 4.27266 | 9.20516 | .128205 |
| 7.81 | 60.9961 | 2.79464 | 8.83742 | 476.380 | 1.98404 | 4.27448 | 9.20910 | .128041 |
| 7.82 | 61.1524 | 2.79643 | 8.84308 | 478.212 | 1.98489 | 4.27631 | 9.21302 | .127877 |
| 7.83 | 61.3089 | 2.79821 | 8.84873 | 480.049 | 1.98573 | 4.27813 | 9.21695 | .127714 |
| 7.84 | 61.4656 | 2.80000 | 8.85438 | 481.890 | 1.98658 | 4.27995 | 9.22087 | .127551 |
| 7.85 | 61.6225 | 2.80179 | 8.86002 | 483.737 | 1.98742 | 4.28177 | 9.22479 | .127389 |
| 7.86 | 61.7796 | 2.80357 | 8.86566 | 485.588 | 1.98826 | 4.28359 | 9.22871 | .127226 |
| 7.87 | 61.9369 | 2.80535 | 8.87130 | 487.443 | 1.98911 | 4.28540 | 9.23262 | .127065 |
| 7.88 | 62.0944 | 2.80713 | 8.87694 | 489.304 | 1.98995 | 4.28722 | 9.23655 | .126904 |
| 7.89 | 62.2521 | 2.80891 | 8.88257 | 491.169 | 1.99079 | 4.28903 | 9.24043 | .126743 |
| 7.90 | 62.4100 | 2.81069 | 8.88819 | 493.039 | 1.99163 | 4.29084 | 9.24434 | .126582 |
| 7.91 | 62.5681 | 2.81247 | 8.89382 | 494.914 | 1.99247 | 4.29265 | 9.24823 | .126422 |
| 7.92 | 62.7264 | 2.81425 | 8.89944 | 496.793 | 1.99331 | 4.29446 | 9.25213 | .126263 |
| 7.93 | 62.8849 | 2.81603 | 8.90505 | 498.677 | 1.99415 | 4.29627 | 9.25602 | .126103 |
| 7.94 | 63.0436 | 2.81780 | 8.91067 | 500.566 | 1.99499 | 4.29807 | 9.25991 | .125945 |
| 7.95 | 63.2025 | 2.81957 | 8.91628 | 502.460 | 1.99582 | 4.29987 | 9.26380 | .125786 |
| 7.96 | 63.3616 | 2.82135 | 8.92188 | 504.358 | 1.99666 | 4.30168 | 9.26768 | .125628 |
| 7.97 | 63.5209 | 2.82312 | 8.92749 | 506.262 | 1.99750 | 4.30348 | 9.27156 | .125471 |
| 7.98 | 63.6804 | 2.82489 | 8.93308 | 508.170 | 1.99833 | 4.30528 | 9.27544 | .125313 |
| 7.99 | 63.8401 | 2.82666 | 8.93868 | 510.082 | 1.99917 | 4.30707 | 9.27931 | .125156 |
| 8.00 | 64.0000 | 2.82843 | 8.94427 | 512.000 | 2.00000 | 4.30887 | 9.28318 | .125000 |
| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |

| n | n^2 | \sqrt{n} | $\sqrt{10\,n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10\,n}$ | $\sqrt[3]{100\,n}$ | $1/n$ |
|-------------|---------|------------|----------------|---------|---------------|-------------------|--------------------|---------|
| 8.00 | 64.0000 | 2.82843 | 8.94427 | 512.000 | 2.00000 | 4.30887 | 9.28318 | .125000 |
| 8.01 | 64.1601 | 2.83019 | 8.94986 | 513.922 | 2.00083 | 4.31066 | 9.28704 | .124844 |
| 8.02 | 64.3204 | 2.83196 | 8.95545 | 515.850 | 2.00167 | 4.31246 | 9.29091 | .124688 |
| 8.03 | 64.4809 | 2.83373 | 8.96103 | 517.782 | 2.00250 | 4.31425 | 9.29477 | .124533 |
| 8.04 | 64.6416 | 2.83549 | 8.96660 | 519.718 | 2.00333 | 4.31604 | 9.29862 | .124378 |
| 8.05 | 64.8025 | 2.83725 | 8.97218 | 521.660 | 2.00416 | 4.31783 | 9.30248 | .124224 |
| 8.06 | 64.9636 | 2.83901 | 8.97775 | 523.607 | 2.00499 | 4.31961 | 9.30633 | .124069 |
| 8.07 | 65.1249 | 2.84077 | 8.98332 | 525.558 | 2.00582 | 4.32140 | 9.31018 | .123916 |
| 8.08 | 65.2864 | 2.84253 | 8.98888 | 527.514 | 2.00664 | 4.32318 | 9.31402 | .123762 |
| 8.09 | 65.4481 | 2.84429 | 8.99444 | 529.475 | 2.00747 | 4.32497 | 9.31786 | .123609 |
| 8.10 | 65.6100 | 2.84605 | 9.00000 | 531.441 | 2.00830 | 4.32675 | 9.32170 | .123457 |
| 8.11 | 65.7721 | 2.84781 | 9.00555 | 533.412 | 2.00912 | 4.32853 | 9.32553 | .123305 |
| 8.12 | 65.9344 | 2.84956 | 9.01110 | 535.387 | 2.00995 | 4.33031 | 9.32936 | .123153 |
| 8.13 | 66.0969 | 2.85132 | 9.01665 | 537.368 | 2.01078 | 4.33208 | 9.33319 | .123001 |
| 8.14 | 66.2596 | 2.85307 | 9.02219 | 539.353 | 2.01160 | 4.33386 | 9.33702 | .122850 |
| 8.15 | 66.4225 | 2.85482 | 9.02774 | 541.343 | 2.01242 | 4.33563 | 9.34084 | .122699 |
| 8.16 | 66.5856 | 2.85657 | 9.03327 | 543.338 | 2.01325 | 4.33741 | 9.34466 | .122549 |
| 8.17 | 66.7489 | 2.85832 | 9.03881 | 545.339 | 2.01407 | 4.33918 | 9.34847 | .122399 |
| 8.18 | 66.9124 | 2.86007 | 9.04434 | 547.343 | 2.01489 | 4.34095 | 9.35229 | .122249 |
| 8.19 | 67.0761 | 2.86182 | 9.04986 | 549.353 | 2.01571 | 4.34271 | 9.35610 | .122100 |
| 8.20 | 67.2400 | 2.86356 | 9.05539 | 551.368 | 2.01653 | 4.34448 | 9.35990 | .121951 |
| 8.21 | 67.4041 | 2.86531 | 9.06091 | 553.388 | 2.01735 | 4.34625 | 9.36370 | .121803 |
| 8.22 | 67.5684 | 2.86705 | 9.06642 | 555.412 | 2.01817 | 4.34801 | 9.36751 | .121655 |
| 8.23 | 67.7329 | 2.86880 | 9.07193 | 557.442 | 2.01899 | 4.34977 | 9.37130 | .121507 |
| 8.24 | 67.8976 | 2.87054 | 9.07744 | 559.476 | 2.01980 | 4.35153 | 9.37510 | .121359 |
| 8.25 | 68.0625 | 2.87228 | 9.08295 | 561.516 | 2.02062 | 4.35329 | 9.37889 | .121212 |
| 8.26 | 68.2276 | 2.87402 | 9.08845 | 563.560 | 2.02144 | 4.35505 | 9.38268 | .121065 |
| 8.27 | 68.3929 | 2.87576 | 9.09395 | 565.609 | 2.02225 | 4.35681 | 9.38646 | .120919 |
| 8.28 | 68.5584 | 2.87750 | 9.09945 | 567.664 | 2.02307 | 4.35856 | 9.39024 | .120773 |
| 8.29 | 68.7241 | 2.87924 | 9.10494 | 569.723 | 2.02388 | 4.36032 | 9.39402 | .120627 |
| 8.30 | 68.8900 | 2.88097 | 9.11043 | 571.787 | 2.02469 | 4.36207 | 9.39780 | .120482 |
| 8.31 | 69.0561 | 2.88271 | 9.11592 | 573.856 | 2.02551 | 4.36382 | 9.40157 | .120337 |
| 8.32 | 69.2224 | 2.88444 | 9.12140 | 575.930 | 2.02632 | 4.36557 | 9.40534 | .120192 |
| 8.33 | 69.3889 | 2.88617 | 9.12688 | 578.010 | 2.02713 | 4.36732 | 9.40911 | .120048 |
| 8.34 | 69.5556 | 2.88791 | 9.13236 | 580.094 | 2.02794 | 4.36907 | 9.41287 | .119904 |
| 8.35 | 69.7225 | 2.88964 | 9.13783 | 582.183 | 2.02875 | 4.37081 | 9.41663 | .119760 |
| 8.36 | 69.8896 | 2.89137 | 9.14330 | 584.277 | 2.02956 | 4.37256 | 9.42039 | .119617 |
| 8.37 | 70.0569 | 2.89310 | 9.14877 | 586.376 | 2.03037 | 4.37430 | 9.42414 | .119474 |
| 8.38 | 70.2244 | 2.89482 | 9.15423 | 588.480 | 2.03118 | 4.37604 | 9.42789 | .119332 |
| 8.39 | 70.3921 | 2.89655 | 9.15969 | 590.590 | 2.03199 | 4.37778 | 9.43164 | .119190 |
| 8.40 | 70.5600 | 2.89828 | 9.16515 | 592.704 | 2.03279 | 4.37952 | 9.43539 | .119048 |
| 8.41 | 70.7281 | 2.90000 | 9.17061 | 594.823 | 2.03360 | 4.38126 | 9.43913 | .118906 |
| 8.42 | 70.8964 | 2.90172 | 9.17606 | 596.948 | 2.03440 | 4.38299 | 9.44287 | .118765 |
| 8.43 | 71.0649 | 2.90345 | 9.18150 | 599.077 | 2.03521 | 4.38473 | 9.44661 | .118624 |
| 8.44 | 71.2336 | 2.90517 | 9.18695 | 601.212 | 2.03601 | 4.38646 | 9.45034 | .118483 |
| 8.45 | 71.4025 | 2.90689 | 9.19239 | 603.351 | 2.03682 | 4.38819 | 9.45407 | .118343 |
| 8.46 | 71.5716 | 2.90861 | 9.19783 | 605.496 | 2.03762 | 4.38992 | 9.45780 | .118203 |
| 8.47 | 71.7409 | 2.91033 | 9.20326 | 607.645 | 2.03842 | 4.39165 | 9.46152 | .118064 |
| 8.48 | 71.9104 | 2.91204 | 9.20869 | 609.800 | 2.03923 | 4.39338 | 9.46525 | .117925 |
| 8.49 | 72.0801 | 2.91376 | 9.21412 | 611.960 | 2.04003 | 4.39510 | 9.46897 | .117786 |
| 8.50 | 72.2500 | 2.91548 | 9.21954 | 614.125 | 2.04083 | 4.39683 | 9.47268 | .117647 |
| n | n^2 | \sqrt{n} | $\sqrt{10\,n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10\,n}$ | $\sqrt[3]{100\,n}$ | $1/n$ |

| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |
|-------------|---------|------------|--------------|---------|---------------|-----------------|------------------|---------|
| 8.50 | 72.2500 | 2.91548 | 9.21954 | 614.125 | 2.04083 | 4.39683 | 9.47268 | .117647 |
| 8.51 | 72.4201 | 2.91719 | 9.22497 | 616.295 | 2.04163 | 4.39855 | 9.47640 | .117509 |
| 8.52 | 72.5904 | 2.91890 | 9.23038 | 618.470 | 2.04243 | 4.40028 | 9.48011 | .117371 |
| 8.53 | 72.7609 | 2.92062 | 9.23580 | 620.650 | 2.04323 | 4.40200 | 9.48381 | .117233 |
| 8.54 | 72.9316 | 2.92233 | 9.24121 | 622.836 | 2.04402 | 4.40372 | 9.48752 | .117096 |
| 8.55 | 73.1025 | 2.92404 | 9.24662 | 625.026 | 2.04482 | 4.40543 | 9.49122 | .116959 |
| 8.56 | 73.2736 | 2.92575 | 9.25203 | 627.222 | 2.04562 | 4.40715 | 9.49492 | .116822 |
| 8.57 | 73.4449 | 2.92746 | 9.25743 | 629.423 | 2.04641 | 4.40887 | 9.49861 | .116686 |
| 8.58 | 73.6164 | 2.92916 | 9.26283 | 631.629 | 2.04721 | 4.41058 | 9.50231 | .116550 |
| 8.59 | 73.7881 | 2.93087 | 9.26823 | 633.840 | 2.04801 | 4.41229 | 9.50600 | .116414 |
| 8.60 | 73.9600 | 2.93258 | 9.27362 | 636.056 | 2.04880 | 4.41400 | 9.50969 | .116279 |
| 8.61 | 74.1321 | 2.93428 | 9.27901 | 638.277 | 2.04959 | 4.41571 | 9.51337 | .116144 |
| 8.62 | 74.3044 | 2.93598 | 9.28440 | 640.504 | 2.05039 | 4.41742 | 9.51705 | .116009 |
| 8.63 | 74.4769 | 2.93769 | 9.28978 | 642.736 | 2.05118 | 4.41913 | 9.52073 | .115875 |
| 8.64 | 74.6496 | 2.93939 | 9.29516 | 644.973 | 2.05197 | 4.42084 | 9.52441 | .115741 |
| 8.65 | 74.8225 | 2.94109 | 9.30054 | 647.215 | 2.05276 | 4.42254 | 9.52808 | .115607 |
| 8.66 | 74.9956 | 2.94279 | 9.30591 | 649.462 | 2.05355 | 4.42425 | 9.53175 | .115473 |
| 8.67 | 75.1689 | 2.94449 | 9.31128 | 651.714 | 2.05434 | 4.42595 | 9.53542 | .115340 |
| 8.68 | 75.3424 | 2.94618 | 9.31665 | 653.972 | 2.05513 | 4.42765 | 9.53908 | .115207 |
| 8.69 | 75.5161 | 2.94788 | 9.32202 | 656.235 | 2.05592 | 4.42935 | 9.54274 | .115075 |
| 8.70 | 75.6900 | 2.94958 | 9.32738 | 658.503 | 2.05671 | 4.43105 | 9.54640 | .114943 |
| 8.71 | 75.8641 | 2.95127 | 9.33274 | 660.776 | 2.05750 | 4.43274 | 9.55006 | .114811 |
| 8.72 | 76.0384 | 2.95296 | 9.33809 | 663.055 | 2.05828 | 4.43444 | 9.55371 | .114679 |
| 8.73 | 76.2129 | 2.95466 | 9.34345 | 665.339 | 2.05907 | 4.43613 | 9.55736 | .114548 |
| 8.74 | 76.3876 | 2.95635 | 9.34880 | 667.628 | 2.05986 | 4.43783 | 9.56101 | .114416 |
| 8.75 | 76.5625 | 2.95804 | 9.35414 | 669.922 | 2.06064 | 4.43952 | 9.56466 | .114286 |
| 8.76 | 76.7376 | 2.95973 | 9.35949 | 672.221 | 2.06143 | 4.44121 | 9.56830 | .114155 |
| 8.77 | 76.9129 | 2.96142 | 9.36483 | 674.526 | 2.06221 | 4.44290 | 9.57194 | .114025 |
| 8.78 | 77.0884 | 2.96311 | 9.37017 | 676.836 | 2.06299 | 4.44459 | 9.57557 | .113895 |
| 8.79 | 77.2641 | 2.96479 | 9.37550 | 679.151 | 2.06378 | 4.44627 | 9.57921 | .113766 |
| 8.80 | 77.4400 | 2.96648 | 9.38083 | 681.472 | 2.06456 | 4.44796 | 9.58284 | .113636 |
| 8.81 | 77.6161 | 2.96816 | 9.38616 | 683.798 | 2.06534 | 4.44964 | 9.58647 | .113507 |
| 8.82 | 77.7924 | 2.96985 | 9.39149 | 686.129 | 2.06612 | 4.45133 | 9.59009 | .113379 |
| 8.83 | 77.9689 | 2.97153 | 9.39681 | 688.465 | 2.06690 | 4.45301 | 9.59372 | .113250 |
| 8.84 | 78.1456 | 2.97321 | 9.40213 | 690.807 | 2.06768 | 4.45469 | 9.59734 | .113122 |
| 8.85 | 78.3225 | 2.97489 | 9.40744 | 693.154 | 2.06846 | 4.45637 | 9.60095 | .112994 |
| 8.86 | 78.4996 | 2.97658 | 9.41276 | 695.506 | 2.06924 | 4.45805 | 9.60457 | .112867 |
| 8.87 | 78.6769 | 2.97825 | 9.41807 | 697.864 | 2.07002 | 4.45972 | 9.60818 | .112740 |
| 8.88 | 78.8544 | 2.97993 | 9.42338 | 700.227 | 2.07080 | 4.46140 | 9.61179 | .112613 |
| 8.89 | 79.0321 | 2.98161 | 9.42868 | 702.595 | 2.07157 | 4.46307 | 9.61540 | .112486 |
| 8.90 | 79.2100 | 2.98329 | 9.43398 | 704.969 | 2.07235 | 4.46475 | 9.61900 | .112360 |
| 8.91 | 79.3881 | 2.98496 | 9.43928 | 707.348 | 2.07313 | 4.46642 | 9.62260 | .112233 |
| 8.92 | 79.5664 | 2.98664 | 9.44458 | 709.732 | 2.07390 | 4.46809 | 9.62620 | .112108 |
| 8.93 | 79.7449 | 2.98831 | 9.44987 | 712.122 | 2.07468 | 4.46976 | 9.62980 | .111982 |
| 8.94 | 79.9236 | 2.98998 | 9.45516 | 714.517 | 2.07545 | 4.47142 | 9.63339 | .111857 |
| 8.95 | 80.1025 | 2.99166 | 9.46044 | 716.917 | 2.07622 | 4.47309 | 9.63698 | .111732 |
| 8.96 | 80.2816 | 2.99333 | 9.46573 | 719.323 | 2.07700 | 4.47476 | 9.64057 | .111607 |
| 8.97 | 80.4609 | 2.99500 | 9.47101 | 721.734 | 2.07777 | 4.47642 | 9.64415 | .111483 |
| 8.98 | 80.6404 | 2.99666 | 9.47629 | 724.151 | 2.07854 | 4.47808 | 9.64774 | .111359 |
| 8.99 | 80.8201 | 2.99833 | 9.48156 | 726.573 | 2.07931 | 4.47974 | 9.65132 | .111235 |
| 9.00 | 81.0000 | 3.00000 | 9.48683 | 729.000 | 2.08008 | 4.48140 | 9.65489 | .111111 |
| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |

| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |
|-------------|---------|------------|--------------|---------|---------------|-----------------|------------------|---------|
| 9.00 | 81.0000 | 3.00000 | 9.48683 | 729.000 | 2.08008 | 4.48140 | 9.65489 | .111111 |
| 9.01 | 81.1801 | 3.00167 | 9.49210 | 731.433 | 2.08085 | 4.48306 | 9.65847 | .110988 |
| 9.02 | 81.3604 | 3.00333 | 9.49737 | 733.871 | 2.08162 | 4.48472 | 9.66204 | .110865 |
| 9.03 | 81.5409 | 3.00500 | 9.50263 | 736.314 | 2.08239 | 4.48638 | 9.66561 | .110742 |
| 9.04 | 81.7216 | 3.00666 | 9.50789 | 738.763 | 2.08316 | 4.48803 | 9.66918 | .110619 |
| 9.05 | 81.9025 | 3.00832 | 9.51315 | 741.218 | 2.08393 | 4.48969 | 9.67274 | .110497 |
| 9.06 | 82.0836 | 3.00998 | 9.51840 | 743.677 | 2.08470 | 4.49134 | 9.67630 | .110375 |
| 9.07 | 82.2649 | 3.01164 | 9.52365 | 746.143 | 2.08546 | 4.49299 | 9.67986 | .110254 |
| 9.08 | 82.4464 | 3.01330 | 9.52890 | 748.613 | 2.08623 | 4.49464 | 9.68342 | .110132 |
| 9.09 | 82.6281 | 3.01496 | 9.53415 | 751.089 | 2.08699 | 4.49629 | 9.68697 | .110011 |
| 9.10 | 82.8100 | 3.01662 | 9.53939 | 753.571 | 2.08776 | 4.49794 | 9.69052 | .109890 |
| 9.11 | 82.9921 | 3.01828 | 9.54463 | 756.058 | 2.08852 | 4.49959 | 9.69407 | .109769 |
| 9.12 | 83.1744 | 3.01993 | 9.54987 | 758.551 | 2.08929 | 4.50123 | 9.69762 | .109649 |
| 9.13 | 83.3569 | 3.02159 | 9.55510 | 761.048 | 2.09005 | 4.50288 | 9.70116 | .109529 |
| 9.14 | 83.5396 | 3.02324 | 9.56033 | 763.552 | 2.09081 | 4.50452 | 9.70470 | .109409 |
| 9.15 | 83.7225 | 3.02490 | 9.56556 | 766.061 | 2.09158 | 4.50616 | 9.70824 | .109290 |
| 9.16 | 83.9056 | 3.02655 | 9.57079 | 768.575 | 2.09234 | 4.50781 | 9.71177 | .109170 |
| 9.17 | 84.0889 | 3.02820 | 9.57601 | 771.095 | 2.09310 | 4.50945 | 9.71531 | .109051 |
| 9.18 | 84.2724 | 3.02985 | 9.58123 | 773.621 | 2.09386 | 4.51108 | 9.71884 | .108932 |
| 9.19 | 84.4561 | 3.03150 | 9.58645 | 776.152 | 2.09462 | 4.51272 | 9.72236 | .108814 |
| 9.20 | 84.6400 | 3.03315 | 9.59166 | 778.688 | 2.09538 | 4.51436 | 9.72589 | .108696 |
| 9.21 | 84.8241 | 3.03480 | 9.59687 | 781.230 | 2.09614 | 4.51599 | 9.72941 | .108578 |
| 9.22 | 85.0084 | 3.03645 | 9.60208 | 783.777 | 2.09690 | 4.51763 | 9.73293 | .108460 |
| 9.23 | 85.1929 | 3.03809 | 9.60729 | 786.330 | 2.09765 | 4.51926 | 9.73645 | .108342 |
| 9.24 | 85.3776 | 3.03974 | 9.61249 | 788.889 | 2.09841 | 4.52089 | 9.73996 | .108225 |
| 9.25 | 85.5625 | 3.04138 | 9.61769 | 791.453 | 2.09917 | 4.52252 | 9.74348 | .108108 |
| 9.26 | 85.7476 | 3.04302 | 9.62289 | 794.023 | 2.09992 | 4.52415 | 9.74699 | .107991 |
| 9.27 | 85.9329 | 3.04467 | 9.62808 | 796.598 | 2.10068 | 4.52578 | 9.75049 | .107875 |
| 9.28 | 86.1184 | 3.04631 | 9.63328 | 799.179 | 2.10144 | 4.52740 | 9.75400 | .107759 |
| 9.29 | 86.3041 | 3.04795 | 9.63846 | 801.765 | 2.10219 | 4.52903 | 9.75750 | .107643 |
| 9.30 | 86.4900 | 3.04959 | 9.64365 | 804.357 | 2.10294 | 4.53065 | 9.76100 | .107527 |
| 9.31 | 86.6761 | 3.05123 | 9.64883 | 806.954 | 2.10370 | 4.53228 | 9.76450 | .107411 |
| 9.32 | 86.8624 | 3.05287 | 9.65401 | 809.558 | 2.10445 | 4.53390 | 9.76799 | .107296 |
| 9.33 | 87.0489 | 3.05450 | 9.65919 | 812.166 | 2.10520 | 4.53552 | 9.77148 | .107181 |
| 9.34 | 87.2356 | 3.05614 | 9.66437 | 814.781 | 2.10595 | 4.53714 | 9.77497 | .107066 |
| 9.35 | 87.4225 | 3.05778 | 9.66954 | 817.400 | 2.10671 | 4.53876 | 9.77846 | .106952 |
| 9.36 | 87.6096 | 3.05941 | 9.67471 | 820.026 | 2.10746 | 4.54038 | 9.78195 | .106838 |
| 9.37 | 87.7969 | 3.06105 | 9.67988 | 822.657 | 2.10821 | 4.54199 | 9.78543 | .106724 |
| 9.38 | 87.9844 | 3.06268 | 9.68504 | 825.294 | 2.10896 | 4.54361 | 9.78891 | .106610 |
| 9.39 | 88.1721 | 3.06431 | 9.69020 | 827.936 | 2.10971 | 4.54522 | 9.79239 | .106496 |
| 9.40 | 88.3600 | 3.06594 | 9.69536 | 830.584 | 2.11045 | 4.54684 | 9.79586 | .106383 |
| 9.41 | 88.5481 | 3.06757 | 9.70052 | 833.238 | 2.11120 | 4.54845 | 9.79933 | .106270 |
| 9.42 | 88.7364 | 3.06920 | 9.70567 | 835.897 | 2.11195 | 4.55006 | 9.80280 | .106157 |
| 9.43 | 88.9249 | 3.07083 | 9.71082 | 838.562 | 2.11270 | 4.55167 | 9.80627 | .106045 |
| 9.44 | 89.1136 | 3.07246 | 9.71597 | 841.232 | 2.11344 | 4.55328 | 9.80974 | .105932 |
| 9.45 | 89.3025 | 3.07409 | 9.72111 | 843.909 | 2.11419 | 4.55488 | 9.81320 | .105820 |
| 9.46 | 89.4916 | 3.07571 | 9.72625 | 846.591 | 2.11494 | 4.55649 | 9.81666 | .105708 |
| 9.47 | 89.6809 | 3.07734 | 9.73139 | 849.278 | 2.11568 | 4.55809 | 9.82012 | .105597 |
| 9.48 | 89.8704 | 3.07896 | 9.73653 | 851.971 | 2.11642 | 4.55970 | 9.82357 | .105485 |
| 9.49 | 90.0601 | 3.08058 | 9.74166 | 854.670 | 2.11717 | 4.56130 | 9.82703 | .105374 |
| 9.50 | 90.2500 | 3.08221 | 9.74679 | 857.375 | 2.11791 | 4.56290 | 9.83048 | .105263 |
| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |

| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |
|--------------|---------|------------|--------------|---------|---------------|-----------------|------------------|---------|
| 9.50 | 90.2500 | 3.08221 | 9.74679 | 857.375 | 2.11791 | 4.56290 | 9.83048 | .105263 |
| 9.51 | 90.4401 | 3.08383 | 9.75192 | 860.085 | 2.11865 | 4.56450 | 9.83392 | .105152 |
| 9.52 | 90.6304 | 3.08545 | 9.75705 | 862.801 | 2.11940 | 4.56610 | 9.83737 | .105042 |
| 9.53 | 90.8209 | 3.08707 | 9.76217 | 865.523 | 2.12014 | 4.56770 | 9.84081 | .104932 |
| 9.54 | 91.0116 | 3.08869 | 9.76729 | 868.251 | 2.12088 | 4.56930 | 9.84425 | .104822 |
| 9.55 | 91.2025 | 3.09031 | 9.77241 | 870.984 | 2.12162 | 4.57089 | 9.84769 | .104712 |
| 9.56 | 91.3936 | 3.09192 | 9.77753 | 873.723 | 2.12236 | 4.57249 | 9.85113 | .104603 |
| 9.57 | 91.5849 | 3.09354 | 9.78264 | 876.467 | 2.12310 | 4.57408 | 9.85456 | .104493 |
| 9.58 | 91.7764 | 3.09516 | 9.78775 | 879.218 | 2.12384 | 4.57567 | 9.85799 | .104384 |
| 9.59 | 91.9681 | 3.09677 | 9.79285 | 881.974 | 2.12458 | 4.57727 | 9.86142 | .104275 |
| 9.60 | 92.1600 | 3.09839 | 9.79796 | 884.736 | 2.12532 | 4.57886 | 9.86485 | .104167 |
| 9.61 | 92.3521 | 3.10000 | 9.80306 | 887.504 | 2.12605 | 4.58045 | 9.86827 | .104058 |
| 9.62 | 92.5444 | 3.10161 | 9.80816 | 890.277 | 2.12679 | 4.58204 | 9.87169 | .103950 |
| 9.63 | 92.7369 | 3.10322 | 9.81326 | 893.056 | 2.12753 | 4.58362 | 9.87511 | .103842 |
| 9.64 | 92.9296 | 3.10483 | 9.81835 | 895.841 | 2.12826 | 4.58521 | 9.87853 | .103734 |
| 9.65 | 93.1225 | 3.10644 | 9.82344 | 898.632 | 2.12900 | 4.58679 | 9.88195 | .103627 |
| 9.66 | 93.3156 | 3.10805 | 9.82853 | 901.429 | 2.12974 | 4.58838 | 9.88536 | .103520 |
| 9.67 | 93.5089 | 3.10966 | 9.83362 | 904.231 | 2.13047 | 4.58996 | 9.88877 | .103413 |
| 9.68 | 93.7024 | 3.11127 | 9.83870 | 907.039 | 2.13120 | 4.59154 | 9.89217 | .103306 |
| 9.69 | 93.8961 | 3.11288 | 9.84378 | 909.853 | 2.13194 | 4.59312 | 9.89558 | .103199 |
| 9.70 | 94.0900 | 3.11448 | 9.84886 | 912.673 | 2.13267 | 4.59470 | 9.89898 | .103093 |
| 9.71 | 94.2841 | 3.11609 | 9.85393 | 915.499 | 2.13340 | 4.59628 | 9.90238 | .102987 |
| 9.72 | 94.4784 | 3.11769 | 9.85901 | 918.330 | 2.13414 | 4.59786 | 9.90578 | .102881 |
| 9.73 | 94.6729 | 3.11929 | 9.86408 | 921.167 | 2.13487 | 4.59943 | 9.90918 | .102775 |
| 9.74 | 94.8676 | 3.12090 | 9.86914 | 924.010 | 2.13560 | 4.60101 | 9.91257 | .102669 |
| 9.75 | 95.0625 | 3.12250 | 9.87421 | 926.859 | 2.13633 | 4.60258 | 9.91596 | .102564 |
| 9.76 | 95.2576 | 3.12410 | 9.87927 | 929.714 | 2.13706 | 4.60416 | 9.91935 | .102459 |
| 9.77 | 95.4529 | 3.12570 | 9.88433 | 932.575 | 2.13779 | 4.60573 | 9.92274 | .102354 |
| 9.78 | 95.6484 | 3.12730 | 9.88939 | 935.441 | 2.13852 | 4.60730 | 9.92612 | .102249 |
| 9.79 | 95.8441 | 3.12890 | 9.89444 | 938.314 | 2.13925 | 4.60887 | 9.92950 | .102145 |
| 9.80 | 96.0400 | 3.13050 | 9.89949 | 941.192 | 2.13997 | 4.61044 | 9.93288 | .102041 |
| 9.81 | 96.2361 | 3.13209 | 9.90454 | 944.076 | 2.14070 | 4.61200 | 9.93626 | .101937 |
| 9.82 | 96.4324 | 3.13369 | 9.90959 | 946.966 | 2.14143 | 4.61357 | 9.93964 | .101833 |
| 9.83 | 96.6289 | 3.13528 | 9.91464 | 949.862 | 2.14216 | 4.61514 | 9.94301 | .101729 |
| 9.84 | 96.8256 | 3.13688 | 9.91968 | 952.764 | 2.14288 | 4.61670 | 9.94638 | .101626 |
| 9.85 | 97.0225 | 3.13847 | 9.92472 | 955.672 | 2.14361 | 4.61826 | 9.94975 | .101523 |
| 9.86 | 97.2196 | 3.14006 | 9.92975 | 958.585 | 2.14433 | 4.61983 | 9.95311 | .101420 |
| 9.87 | 97.4169 | 3.14166 | 9.93479 | 961.505 | 2.14506 | 4.62139 | 9.95648 | .101317 |
| 9.88 | 97.6144 | 3.14325 | 9.93982 | 964.430 | 2.14578 | 4.62295 | 9.95984 | .101215 |
| 9.89 | 97.8121 | 3.14484 | 9.94485 | 967.362 | 2.14651 | 4.62451 | 9.96320 | .101112 |
| 9.90 | 98.0100 | 3.14643 | 9.94987 | 970.299 | 2.14723 | 4.62607 | 9.96655 | .101010 |
| 9.91 | 98.2081 | 3.14802 | 9.95490 | 973.242 | 2.14795 | 4.62762 | 9.96991 | .100908 |
| 9.92 | 98.4064 | 3.14960 | 9.95992 | 976.191 | 2.14867 | 4.62918 | 9.97326 | .100806 |
| 9.93 | 98.6049 | 3.15119 | 9.96494 | 979.147 | 2.14940 | 4.63073 | 9.97661 | .100705 |
| 9.94 | 98.8036 | 3.15278 | 9.96995 | 982.108 | 2.15012 | 4.63229 | 9.97996 | .100604 |
| 9.95 | 99.0025 | 3.15436 | 9.97497 | 985.075 | 2.15084 | 4.63384 | 9.98331 | .100503 |
| 9.96 | 99.2016 | 3.15595 | 9.97998 | 988.048 | 2.15156 | 4.63539 | 9.98665 | .100402 |
| 9.97 | 99.4009 | 3.15753 | 9.98499 | 991.027 | 2.15228 | 4.63694 | 9.98999 | .100301 |
| 9.98 | 99.6004 | 3.15911 | 9.98999 | 994.012 | 2.15300 | 4.63849 | 9.99333 | .100200 |
| 9.99 | 99.8001 | 3.16070 | 9.99500 | 997.003 | 2.15372 | 4.64004 | 9.99667 | .100100 |
| 10.00 | 100.000 | 3.16228 | 10.0000 | 1000.00 | 2.15443 | 4.64159 | 10.0000 | .100000 |
| n | n^2 | \sqrt{n} | $\sqrt{10n}$ | n^3 | $\sqrt[3]{n}$ | $\sqrt[3]{10n}$ | $\sqrt[3]{100n}$ | $1/n$ |

| N | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.0 | | 5.395 | 6.088 | 6.493 | 6.781 | 7.004 | 7.187 | 7.341 | 7.474 | 7.592 |
| 0.1 | Take tabular value — 10 | 7.697 | 7.793 | 7.880 | 7.960 | 8.034 | 8.103 | 8.167 | 8.228 | 8.285 |
| 0.2 | | 8.391 | 8.439 | 8.486 | 8.530 | 8.573 | 8.614 | 8.653 | 8.691 | 8.727 |
| 0.3 | | 8.796 | 8.829 | 8.861 | 8.891 | 8.921 | 8.950 | 8.978 | 9.006 | 9.032 |
| 0.4 | | 9.084 | 9.108 | 9.132 | 9.156 | 9.179 | 9.201 | 9.223 | 9.245 | 9.266 |
| 0.5 | | 9.307 | 9.327 | 9.346 | 9.365 | 9.384 | 9.402 | 9.420 | 9.438 | 9.455 |
| 0.6 | | 9.489 | 9.506 | 9.522 | 9.538 | 9.554 | 9.569 | 9.584 | 9.600 | 9.614 |
| 0.7 | | 9.643 | 9.658 | 9.671 | 9.685 | 9.699 | 9.712 | 9.726 | 9.739 | 9.752 |
| 0.8 | | 9.777 | 9.789 | 9.802 | 9.814 | 9.826 | 9.837 | 9.849 | 9.861 | 9.872 |
| 0.9 | | 9.895 | 9.906 | 9.917 | 9.927 | 9.938 | 9.949 | 9.959 | 9.970 | 9.980 |
| 1.0 | 0.00000 | 0995 | 1980 | 2956 | 3922 | 4879 | 5827 | 6766 | 7696 | 8618 |
| 1.1 | 9531 | *0436 | *1333 | *2222 | *3103 | *3976 | *4842 | *5700 | *6551 | *7395 |
| 1.2 | 0.1 8232 | 9062 | 9885 | *0701 | *1511 | *2314 | *3111 | *3902 | *4686 | *5464 |
| 1.3 | 0.2 6236 | 7003 | 7763 | 8518 | 9267 | *0010 | *0748 | *1481 | *2208 | *2930 |
| 1.4 | 0.3 3647 | 4359 | 5066 | 5767 | 6464 | 7156 | 7844 | 8526 | 9204 | 9878 |
| 1.5 | 0.4 0547 | 1211 | 1871 | 2527 | 3178 | 3825 | 4469 | 5108 | 5742 | 6373 |
| 1.6 | 7000 | 7623 | 8243 | 8858 | 9470 | *0078 | *0682 | *1282 | *1879 | *2473 |
| 1.7 | 0.5 3063 | 3649 | 4232 | 4812 | 5389 | 5962 | 6531 | 7098 | 7661 | 8222 |
| 1.8 | 8779 | 9333 | 9884 | *0432 | *0977 | *1519 | *2058 | *2594 | *3127 | *3658 |
| 1.9 | 0.6 4185 | 4710 | 5233 | 5752 | 6269 | 6783 | 7294 | 7803 | 8310 | 8813 |
| 2.0 | 9315 | 9813 | *0310 | *0804 | *1295 | *1784 | *2271 | *2755 | *3237 | *3716 |
| 2.1 | 0.7 4194 | 4669 | 5142 | 5612 | 6081 | 6547 | 7011 | 7473 | 7932 | 8390 |
| 2.2 | 8846 | 9299 | 9751 | *0200 | *0648 | *1093 | *1536 | *1978 | *2418 | *2855 |
| 2.3 | 0.8 3291 | 3725 | 4157 | 4587 | 5015 | 5442 | 5866 | 6289 | 6710 | 7129 |
| 2.4 | 7547 | 7963 | 8377 | 8789 | 9200 | 9609 | *0016 | *0422 | *0826 | *1228 |
| 2.5 | 0.9 1629 | 2028 | 2426 | 2822 | 3216 | 3609 | 4001 | 4391 | 4779 | 5166 |
| 2.6 | 5551 | 5935 | 6317 | 6698 | 7078 | 7456 | 7833 | 8208 | 8582 | 8954 |
| 2.7 | 9325 | 9695 | *0063 | *0430 | *0796 | *1160 | *1523 | *1885 | *2245 | *2604 |
| 2.8 | 1.0 2962 | 3318 | 3674 | 4028 | 4380 | 4732 | 5082 | 5431 | 5779 | 6126 |
| 2.9 | 6171 | 6815 | 7158 | 7500 | 7841 | 8181 | 8519 | 8856 | 9192 | 9527 |
| 3.0 | 9861 | *0194 | *0526 | *0856 | *1186 | *1514 | *1841 | *2168 | *2493 | *2817 |
| 3.1 | 1.1 3140 | 3462 | 3783 | 4103 | 4422 | 4740 | 5057 | 5373 | 5688 | 6002 |
| 3.2 | 6315 | 6627 | 6938 | 7248 | 7557 | 7865 | 8173 | 8479 | 8784 | 9089 |
| 3.3 | 9392 | 9695 | 9996 | *0297 | *0597 | *0896 | *1194 | *1491 | *1788 | *2083 |
| 3.4 | 1.2 2378 | 2671 | 2964 | 3256 | 3547 | 3837 | 4127 | 4415 | 4703 | 4990 |
| 3.5 | 5276 | 5562 | 5846 | 6130 | 6413 | 6695 | 6976 | 7257 | 7536 | 7815 |
| 3.6 | 8093 | 8371 | 8647 | 8923 | 9198 | 9473 | 9746 | *0019 | *0291 | *0563 |
| 3.7 | 1.3 0833 | 1103 | 1372 | 1641 | 1909 | 2176 | 2442 | 2708 | 2972 | 3237 |
| 3.8 | 3500 | 3763 | 4025 | 4286 | 4547 | 4807 | 5067 | 5325 | 5584 | 5841 |
| 3.9 | 6098 | 6354 | 6609 | 6864 | 7118 | 7372 | 7624 | 7877 | 8128 | 8379 |
| 4.0 | 8629 | 8879 | 9128 | 9377 | 9624 | 9872 | *0118 | *0364 | *0610 | *0854 |
| 4.1 | 1.4 1099 | 1342 | 1585 | 1828 | 2070 | 2311 | 2552 | 2792 | 3031 | 3270 |
| 4.2 | 3508 | 3746 | 3984 | 4220 | 4456 | 4692 | 4927 | 5161 | 5395 | 5629 |
| 4.3 | 5862 | 6094 | 6326 | 6557 | 6787 | 7018 | 7247 | 7476 | 7705 | 7933 |
| 4.4 | 8160 | 8387 | 8614 | 8840 | 9065 | 9290 | 9515 | 9739 | 9962 | *0185 |
| 4.5 | 1.5 0408 | 0630 | 0851 | 1072 | 1293 | 1513 | 1732 | 1951 | 2170 | 2388 |
| 4.6 | 2606 | 2823 | 3039 | 3256 | 3471 | 3687 | 3902 | 4116 | 4330 | 4543 |
| 4.7 | 4756 | 4969 | 5181 | 5393 | 5604 | 5814 | 6025 | 6235 | 6444 | 6653 |
| 4.8 | 6862 | 7070 | 7277 | 7485 | 7691 | 7898 | 8104 | 8309 | 8515 | 8719 |
| 4.9 | 8924 | 9127 | 9331 | 9534 | 9737 | 9939 | *0141 | *0342 | *0543 | *0744 |
| 5.0 | 1.6 0944 | 1144 | 1343 | 1542 | 1741 | 1939 | 2137 | 2334 | 2531 | 2728 |
| N | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| N | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------|----------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 5.0 | 1.6 0944 | 1144 | 1343 | 1542 | 1741 | 1939 | 2137 | 2334 | 2531 | 2728 |
| 5.1 | 2924 | 3120 | 3315 | 3511 | 3705 | 3900 | 4094 | 4287 | 4481 | 4673 |
| 5.2 | 4866 | 5058 | 5250 | 5441 | 5632 | 5823 | 6013 | 6203 | 6393 | 6582 |
| 5.3 | 6771 | 6959 | 7147 | 7335 | 7523 | 7710 | 7896 | 8083 | 8269 | 8455 |
| 5.4 | 8640 | 8825 | 9010 | 9194 | 9378 | 9562 | 9745 | 9928 | *0111 | *0293 |
| 5.5 | 1.7 0475 | 0656 | 0838 | 1019 | 1199 | 1380 | 1560 | 1740 | 1919 | 2098 |
| 5.6 | 2277 | 2455 | 2633 | 2811 | 2988 | 3166 | 3342 | 3519 | 3695 | 3871 |
| 5.7 | 4047 | 4222 | 4397 | 4572 | 4746 | 4920 | 5094 | 5267 | 5440 | 5613 |
| 5.8 | 5786 | 5958 | 6130 | 6302 | 6473 | 6644 | 6815 | 6985 | 7156 | 7326 |
| 5.9 | 7495 | 7665 | 7834 | 8002 | 8171 | 8339 | 8507 | 8675 | 8842 | 9009 |
| 6.0 | 9176 | 9342 | 9509 | 9675 | 9840 | *0006 | *0171 | *0336 | *0500 | *0665 |
| 6.1 | 1.8 0829 | 0993 | 1156 | 1319 | 1482 | 1645 | 1808 | 1970 | 2132 | 2294 |
| 6.2 | 2455 | 2616 | 2777 | 2938 | 3098 | 3258 | 3418 | 3578 | 3737 | 3896 |
| 6.3 | 4055 | 4214 | 4372 | 4530 | 4688 | 4845 | 5003 | 5160 | 5317 | 5473 |
| 6.4 | 5630 | 5786 | 5942 | 6097 | 6253 | 6408 | 6563 | 6718 | 6872 | 7026 |
| 6.5 | 7180 | 7334 | 7487 | 7641 | 7794 | 7947 | 8099 | 8251 | 8403 | 8555 |
| 6.6 | 8707 | 8858 | 9010 | 9160 | 9311 | 9462 | 9612 | 9762 | 9912 | *0061 |
| 6.7 | 1.9 0211 | 0360 | 0509 | 0658 | 0806 | 0954 | 1102 | 1250 | 1398 | 1545 |
| 6.8 | 1692 | 1839 | 1986 | 2132 | 2279 | 2425 | 2571 | 2716 | 2862 | 3007 |
| 6.9 | 3152 | 3297 | 3442 | 3586 | 3730 | 3874 | 4018 | 4162 | 4305 | 4448 |
| 7.0 | 4591 | 4734 | 4876 | 5019 | 5161 | 5303 | 5445 | 5586 | 5727 | 5869 |
| 7.1 | 6009 | 6150 | 6291 | 6431 | 6571 | 6711 | 6851 | 6991 | 7130 | 7269 |
| 7.2 | 7408 | 7547 | 7685 | 7824 | 7962 | 8100 | 8238 | 8376 | 8513 | 8650 |
| 7.3 | 8787 | 8924 | 9061 | 9198 | 9334 | 9470 | 9606 | 9742 | 9877 | *0013 |
| 7.4 | 2.0 0148 | 0283 | 0418 | 0553 | 0687 | 0821 | 0956 | 1089 | 1223 | 1357 |
| 7.5 | 1490 | 1624 | 1757 | 1890 | 2022 | 2155 | 2287 | 2419 | 2551 | 2683 |
| 7.6 | 2815 | 2946 | 3078 | 3209 | 3340 | 3471 | 3601 | 3732 | 3862 | 3992 |
| 7.7 | 4122 | 4252 | 4381 | 4511 | 4640 | 4769 | 4898 | 5027 | 5156 | 5284 |
| 7.8 | 5412 | 5540 | 5668 | 5796 | 5924 | 6051 | 6179 | 6306 | 6433 | 6560 |
| 7.9 | 6686 | 6813 | 6939 | 7065 | 7191 | 7317 | 7443 | 7568 | 7694 | 7819 |
| 8.0 | 7944 | 8069 | 8194 | 8318 | 8443 | 8567 | 8691 | 8815 | 8939 | 9063 |
| 8.1 | 9186 | 9310 | 9433 | 9556 | 9679 | 9802 | 9924 | *0047 | *0169 | *0291 |
| 8.2 | 2.1 0413 | 0535 | 0657 | 0779 | 0900 | 1021 | 1142 | 1263 | 1384 | 1505 |
| 8.3 | 1626 | 1746 | 1866 | 1986 | 2106 | 2226 | 2346 | 2465 | 2585 | 2704 |
| 8.4 | 2823 | 2942 | 3061 | 3180 | 3298 | 3417 | 3535 | 3653 | 3771 | 3889 |
| 8.5 | 4007 | 4124 | 4242 | 4359 | 4476 | 4593 | 4710 | 4827 | 4943 | 5060 |
| 8.6 | 5176 | 5292 | 5409 | 5524 | 5640 | 5756 | 5871 | 5987 | 6102 | 6217 |
| 8.7 | 6332 | 6447 | 6562 | 6677 | 6791 | 6905 | 7020 | 7134 | 7248 | 7361 |
| 8.8 | 7475 | 7589 | 7702 | 7816 | 7929 | 8042 | 8155 | 8267 | 8380 | 8493 |
| 8.9 | 8605 | 8717 | 8830 | 8942 | 9054 | 9165 | 9277 | 9389 | 9500 | 9611 |
| 9.0 | 9722 | 9834 | 9944 | *0055 | *0166 | *0276 | *0387 | *0497 | *0607 | *0717 |
| 9.1 | 2.2 0827 | 0937 | 1047 | 1157 | 1266 | 1375 | 1485 | 1594 | 1703 | 1812 |
| 9.2 | 1920 | 2029 | 2138 | 2246 | 2354 | 2462 | 2570 | 2678 | 2786 | 2894 |
| 9.3 | 3001 | 3109 | 3216 | 3324 | 3431 | 3538 | 3645 | 3751 | 3858 | 3965 |
| 9.4 | 4071 | 4177 | 4284 | 4390 | 4496 | 4601 | 4707 | 4813 | 4918 | 5024 |
| 9.5 | 5129 | 5234 | 5339 | 5444 | 5549 | 5654 | 5759 | 5863 | 5968 | 6072 |
| 9.6 | 6176 | 6280 | 6384 | 6488 | 6592 | 6696 | 6799 | 6903 | 7006 | 7109 |
| 9.7 | 7213 | 7316 | 7419 | 7521 | 7624 | 7727 | 7829 | 7932 | 8034 | 8136 |
| 9.8 | 8238 | 8340 | 8442 | 8544 | 8646 | 8747 | 8849 | 8950 | 9051 | 9152 |
| 9.9 | 9253 | 9354 | 9455 | 9556 | 9657 | 9757 | 9858 | 9958 | *0058 | *0158 |
| 10.0 | 2.3 0259 | 0358 | 0458 | 0558 | 0658 | 0757 | 0857 | 0956 | 1055 | 1154 |
| N | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| | | | | | | | | | | | |
|-----------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|
| 10 | 2.30259 | 25 | 3.21888 | 40 | 3.68888 | 55 | 4.00733 | 70 | 4.24850 | 85 | 4.44265 |
| 11 | 2.39790 | 26 | 3.25810 | 41 | 3.71357 | 56 | 4.02535 | 71 | 4.26268 | 86 | 4.45435 |
| 12 | 2.48491 | 27 | 3.29584 | 42 | 3.73767 | 57 | 4.04305 | 72 | 4.27667 | 87 | 4.46591 |
| 13 | 2.56495 | 28 | 3.33220 | 43 | 3.76120 | 58 | 4.06044 | 73 | 4.29046 | 88 | 4.47734 |
| 14 | 2.63906 | 29 | 3.36730 | 44 | 3.78419 | 59 | 4.07754 | 74 | 4.30407 | 89 | 4.48864 |
| 15 | 2.70805 | 30 | 3.40120 | 45 | 3.80666 | 60 | 4.09434 | 75 | 4.31749 | 90 | 4.49981 |
| 16 | 2.77259 | 31 | 3.43399 | 46 | 3.82864 | 61 | 4.11087 | 76 | 4.33073 | 91 | 4.51086 |
| 17 | 2.83321 | 32 | 3.46574 | 47 | 3.85015 | 62 | 4.12713 | 77 | 4.34381 | 92 | 4.52179 |
| 18 | 2.89037 | 33 | 3.49651 | 48 | 3.87120 | 63 | 4.14313 | 78 | 4.35671 | 93 | 4.53260 |
| 19 | 2.94444 | 34 | 3.52630 | 49 | 3.89182 | 64 | 4.15888 | 79 | 4.36945 | 94 | 4.54329 |
| 20 | 2.99573 | 35 | 3.55535 | 50 | 3.91202 | 65 | 4.17439 | 80 | 4.38203 | 95 | 4.55388 |
| 21 | 3.04452 | 36 | 3.58352 | 51 | 3.93183 | 66 | 4.18965 | 81 | 4.39445 | 96 | 4.56435 |
| 22 | 2.09104 | 37 | 3.61092 | 52 | 3.95124 | 67 | 4.20469 | 82 | 4.40672 | 97 | 4.57471 |
| 23 | 3.13549 | 38 | 3.63759 | 53 | 3.97029 | 68 | 4.21951 | 83 | 4.41884 | 98 | 4.58497 |
| 24 | 3.17805 | 39 | 3.66356 | 54 | 3.98898 | 69 | 4.23411 | 84 | 4.43082 | 99 | 4.59512 |

NAPIERIAN OR NATURAL LOGARITHMS—100 TO 409

| N | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 10 | 4.60517 | 1512 | 2497 | 3473 | 4439 | 5396 | 6344 | 7283 | 8213 | 9135 |
| 11 | 4.70048 | 0953 | 1850 | 2739 | 3620 | 4493 | 5359 | 6217 | 7068 | 7912 |
| 12 | 8749 | 9579 | *0402 | *1218 | *2028 | *2831 | *3628 | *4419 | *5203 | *5981 |
| 13 | 4.86753 | 7520 | 8280 | 9035 | 9784 | *0527 | *1265 | *1998 | *2725 | *3447 |
| 14 | 4.94164 | 4876 | 5583 | 6284 | 6981 | 7673 | 8361 | 9043 | 9721 | *0395 |
| 15 | 5.01064 | 1728 | 2388 | 3044 | 3695 | 4343 | 4986 | 5625 | 6260 | 6890 |
| 16 | 7517 | 8140 | 8760 | 9375 | 9987 | *0595 | *1199 | *1799 | *2396 | *2990 |
| 17 | 5.13580 | 4166 | 4749 | 5329 | 5906 | 6479 | 7048 | 7615 | 8178 | 8739 |
| 18 | 9296 | 9850 | *0401 | *0949 | *1494 | *2036 | *2575 | *3111 | *3644 | *4175 |
| 19 | 5.24702 | 5227 | 5750 | 6269 | 6786 | 7300 | 7811 | 8320 | 8827 | 9330 |
| 20 | 9832 | *0330 | *0827 | *1321 | *1812 | *2301 | *2788 | *3272 | *3754 | *4233 |
| 21 | 5.34711 | 5186 | 5659 | 6129 | 6598 | 7064 | 7528 | 7990 | 8450 | 8907 |
| 22 | 9363 | 9816 | *0268 | *0717 | *1165 | *1610 | *2053 | *2495 | *2935 | *3372 |
| 23 | 5.43808 | 4242 | 4674 | 5104 | 5532 | 5959 | 6383 | 6806 | 7227 | 7646 |
| 24 | 8064 | 8480 | 8894 | 9306 | 9717 | *0126 | *0533 | *0939 | *1343 | *1745 |
| 25 | 5.52146 | 2545 | 2943 | 3339 | 3733 | 4126 | 4518 | 4908 | 5296 | 5683 |
| 26 | 6068 | 6452 | 6834 | 7215 | 7595 | 7973 | 8350 | 8725 | 9099 | 9471 |
| 27 | 9842 | *0212 | *0580 | *0947 | *1313 | *1677 | *2040 | *2402 | *2762 | *3121 |
| 28 | 5.63479 | 3835 | 4191 | 4545 | 4897 | 5249 | 5599 | 5948 | 6296 | 6643 |
| 29 | 6988 | 7332 | 7675 | 8017 | 8358 | 8698 | 9036 | 9373 | 9709 | *0044 |
| 30 | 5.70378 | 0711 | 1043 | 1373 | 1703 | 2031 | 2359 | 2685 | 3010 | 3334 |
| 31 | 3657 | 3979 | 4300 | 4620 | 4939 | 5257 | 5574 | 5890 | 6205 | 6519 |
| 32 | 6832 | 7144 | 7455 | 7765 | 8074 | 8383 | 8690 | 8996 | 9301 | 9606 |
| 33 | 9909 | *0212 | *0513 | *0814 | *1114 | *1413 | *1711 | *2008 | *2305 | *2600 |
| 34 | 5.82895 | 3188 | 3481 | 3773 | 4064 | 4354 | 4644 | 4932 | 5220 | 5507 |
| 35 | 5793 | 6079 | 6363 | 6647 | 6930 | 7212 | 7493 | 7774 | 8053 | 8332 |
| 36 | 8610 | 8888 | 9164 | 9440 | 9715 | 9990 | *0263 | *0536 | *0808 | *1080 |
| 37 | 5.91350 | 1620 | 1889 | 2158 | 2426 | 2693 | 2959 | 3225 | 3489 | 3754 |
| 38 | 4017 | 4280 | 4542 | 4803 | 5064 | 5324 | 5584 | 5842 | 6101 | 6358 |
| 39 | 6615 | 6871 | 7126 | 7381 | 7635 | 7889 | 8141 | 8394 | 8645 | 8896 |
| 40 | 9146 | 9396 | 9645 | 9894 | *0141 | *0389 | *0635 | *0881 | *1127 | *1372 |
| N | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Above 409, use the formula $\log_e 10 n = \log_e n + \log_e 10 = \log_e n + 2.30258509$,
or the formula $\log_e n = \log_e 10 \cdot \log_{10} n = 2.30258509 \log_{10} n$.

BRIEF TABLES
PRINCIPALLY TO FOUR PLACES

| N | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 2 3 | 4 5 6 | 7 8 9 |
|----|------|------|------|------|------|------|------|------|------|------|--------|----------|----------|
| 10 | 0000 | 0043 | 0086 | 0128 | 0170 | 0212 | 0253 | 0294 | 0334 | 0374 | 4 8 12 | 17 21 25 | 29 33 37 |
| 11 | 0414 | 0453 | 0492 | 0531 | 0569 | 0607 | 0645 | 0682 | 0719 | 0755 | 4 8 11 | 15 19 23 | 26 30 34 |
| 12 | 0792 | 0828 | 0864 | 0899 | 0934 | 0969 | 1004 | 1038 | 1072 | 1106 | 3 7 10 | 14 17 21 | 24 28 31 |
| 13 | 1139 | 1173 | 1206 | 1239 | 1271 | 1303 | 1335 | 1367 | 1399 | 1430 | 3 6 10 | 13 16 19 | 23 26 29 |
| 14 | 1461 | 1492 | 1523 | 1553 | 1584 | 1614 | 1644 | 1673 | 1703 | 1732 | 3 6 9 | 12 15 18 | 21 24 27 |
| 15 | 1761 | 1790 | 1818 | 1847 | 1875 | 1903 | 1931 | 1959 | 1987 | 2014 | 3 6 8 | 11 14 17 | 20 22 25 |
| 16 | 2041 | 2068 | 2095 | 2122 | 2148 | 2175 | 2201 | 2227 | 2253 | 2279 | 3 5 8 | 11 13 16 | 18 21 24 |
| 17 | 2304 | 2330 | 2355 | 2380 | 2405 | 2430 | 2455 | 2480 | 2504 | 2529 | 2 5 7 | 10 12 15 | 17 20 22 |
| 18 | 2553 | 2577 | 2601 | 2625 | 2648 | 2672 | 2695 | 2718 | 2742 | 2765 | 2 5 7 | 9 12 14 | 16 19 21 |
| 19 | 2788 | 2810 | 2833 | 2856 | 2878 | 2900 | 2923 | 2945 | 2967 | 2989 | 2 4 7 | 9 11 13 | 16 18 20 |
| 20 | 3010 | 3032 | 3054 | 3075 | 3096 | 3118 | 3139 | 3160 | 3181 | 3201 | 2 4 6 | 8 11 13 | 15 17 19 |
| 21 | 3222 | 3243 | 3263 | 3284 | 3304 | 3324 | 3345 | 3365 | 3385 | 3404 | 2 4 6 | 8 10 12 | 14 16 18 |
| 22 | 3424 | 3444 | 3464 | 3483 | 3502 | 3522 | 3541 | 3560 | 3579 | 3598 | 2 4 6 | 8 10 12 | 14 16 17 |
| 23 | 3617 | 3636 | 3655 | 3674 | 3692 | 3711 | 3729 | 3747 | 3766 | 3784 | 2 4 6 | 7 9 11 | 13 15 17 |
| 24 | 3802 | 3820 | 3838 | 3856 | 3874 | 3892 | 3909 | 3927 | 3945 | 3962 | 2 4 5 | 7 9 11 | 12 14 16 |
| 25 | 3979 | 3997 | 4014 | 4031 | 4048 | 4065 | 4082 | 4099 | 4116 | 4133 | 2 4 5 | 7 9 10 | 12 14 16 |
| 26 | 4150 | 4166 | 4183 | 4200 | 4216 | 4232 | 4249 | 4265 | 4281 | 4298 | 2 3 5 | 7 8 10 | 11 13 15 |
| 27 | 4314 | 4330 | 4346 | 4362 | 4378 | 4393 | 4409 | 4425 | 4440 | 4456 | 2 3 5 | 6 8 9 | 11 12 14 |
| 28 | 4472 | 4487 | 4502 | 4518 | 4533 | 4548 | 4564 | 4579 | 4594 | 4609 | 2 3 5 | 6 8 9 | 11 12 14 |
| 29 | 4624 | 4639 | 4654 | 4669 | 4683 | 4698 | 4713 | 4728 | 4742 | 4757 | 1 3 4 | 6 7 9 | 10 12 13 |
| 30 | 4771 | 4786 | 4800 | 4814 | 4829 | 4843 | 4857 | 4871 | 4886 | 4900 | 1 3 4 | 6 7 9 | 10 11 13 |
| 31 | 4914 | 4928 | 4942 | 4955 | 4969 | 4983 | 4997 | 5011 | 5024 | 5038 | 1 3 4 | 5 7 8 | 10 11 12 |
| 32 | 5051 | 5065 | 5079 | 5092 | 5105 | 5119 | 5132 | 5145 | 5159 | 5172 | 1 3 4 | 5 7 8 | 9 11 12 |
| 33 | 5185 | 5198 | 5211 | 5224 | 5237 | 5250 | 5263 | 5276 | 5289 | 5302 | 1 3 4 | 5 7 8 | 9 11 12 |
| 34 | 5315 | 5328 | 5340 | 5353 | 5366 | 5378 | 5391 | 5403 | 5416 | 5428 | 1 2 4 | 5 6 8 | 9 10 11 |
| 35 | 5441 | 5453 | 5465 | 5478 | 5490 | 5502 | 5514 | 5527 | 5539 | 5551 | 1 2 4 | 5 6 7 | 9 10 11 |
| 36 | 5563 | 5575 | 5587 | 5599 | 5611 | 5623 | 5635 | 5647 | 5658 | 5670 | 1 2 4 | 5 6 7 | 8 10 11 |
| 37 | 5682 | 5694 | 5705 | 5717 | 5729 | 5740 | 5752 | 5763 | 5775 | 5786 | 1 2 4 | 5 6 7 | 8 9 11 |
| 38 | 5798 | 5809 | 5821 | 5832 | 5843 | 5855 | 5866 | 5877 | 5888 | 5899 | 1 2 3 | 5 6 7 | 8 9 10 |
| 39 | 5911 | 5922 | 5933 | 5944 | 5955 | 5966 | 5977 | 5988 | 5999 | 6010 | 1 2 3 | 4 5 7 | 8 9 10 |
| 40 | 6021 | 6031 | 6042 | 6053 | 6064 | 6075 | 6085 | 6096 | 6107 | 6117 | 1 2 3 | 4 5 6 | 8 9 10 |
| 41 | 6128 | 6138 | 6149 | 6160 | 6170 | 6180 | 6191 | 6201 | 6212 | 6222 | 1 2 3 | 4 5 6 | 7 8 9 |
| 42 | 6232 | 6243 | 6253 | 6263 | 6274 | 6284 | 6294 | 6304 | 6314 | 6325 | 1 2 3 | 4 5 6 | 7 8 9 |
| 43 | 6335 | 6345 | 6355 | 6365 | 6375 | 6385 | 6395 | 6405 | 6415 | 6425 | 1 2 3 | 4 5 6 | 7 8 9 |
| 44 | 6435 | 6444 | 6454 | 6464 | 6474 | 6484 | 6493 | 6503 | 6513 | 6522 | 1 2 3 | 4 5 6 | 7 8 9 |
| 45 | 6532 | 6542 | 6551 | 6561 | 6571 | 6580 | 6590 | 6599 | 6609 | 6618 | 1 2 3 | 4 5 6 | 7 8 9 |
| 46 | 6628 | 6637 | 6646 | 6656 | 6665 | 6675 | 6684 | 6693 | 6702 | 6712 | 1 2 3 | 4 5 6 | 7 7 8 |
| 47 | 6721 | 6730 | 6739 | 6749 | 6758 | 6767 | 6776 | 6785 | 6794 | 6803 | 1 2 3 | 4 5 6 | 7 7 8 |
| 48 | 6812 | 6821 | 6830 | 6839 | 6848 | 6857 | 6866 | 6875 | 6884 | 6893 | 1 2 3 | 4 5 6 | 7 7 8 |
| 49 | 6902 | 6911 | 6920 | 6928 | 6937 | 6946 | 6955 | 6964 | 6972 | 6981 | 1 2 3 | 4 4 5 | 6 7 8 |
| 50 | 6990 | 6998 | 7007 | 7016 | 7024 | 7033 | 7042 | 7050 | 7059 | 7067 | 1 2 3 | 3 4 5 | 6 7 8 |
| 51 | 7076 | 7084 | 7093 | 7101 | 7110 | 7118 | 7126 | 7135 | 7143 | 7152 | 1 2 3 | 3 4 5 | 6 7 8 |
| 52 | 7160 | 7168 | 7177 | 7185 | 7193 | 7202 | 7210 | 7218 | 7226 | 7235 | 1 2 3 | 3 4 5 | 6 7 7 |
| 53 | 7243 | 7251 | 7259 | 7267 | 7275 | 7284 | 7292 | 7300 | 7308 | 7316 | 1 2 2 | 3 4 5 | 6 6 7 |
| 54 | 7324 | 7332 | 7340 | 7348 | 7356 | 7364 | 7372 | 7380 | 7388 | 7396 | 1 2 2 | 3 4 5 | 6 6 7 |
| N | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 2 2 | 4 5 6 | 7 8 9 |

The proportional parts are stated in full for every tenth at the right-hand side. The logarithm of any number of four significant figures can be read directly by add-

| N | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 2 3 | 4 5 6 | 7 8 9 |
|----|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 55 | 7404 | 7412 | 7419 | 7427 | 7435 | 7443 | 7451 | 7459 | 7466 | 7474 | 1 2 2 | 3 4 5 | 5 6 7 |
| 56 | 7482 | 7490 | 7497 | 7505 | 7513 | 7520 | 7528 | 7536 | 7543 | 7551 | 1 2 2 | 3 4 5 | 5 6 7 |
| 57 | 7559 | 7566 | 7574 | 7582 | 7589 | 7597 | 7604 | 7612 | 7619 | 7627 | 1 1 2 | 3 4 5 | 5 6 7 |
| 58 | 7634 | 7642 | 7649 | 7657 | 7664 | 7672 | 7679 | 7686 | 7694 | 7701 | 1 1 2 | 3 4 4 | 5 6 7 |
| 59 | 7709 | 7716 | 7723 | 7731 | 7738 | 7745 | 7752 | 7760 | 7767 | 7774 | 1 1 2 | 3 4 4 | 5 6 7 |
| 60 | 7782 | 7789 | 7796 | 7803 | 7810 | 7818 | 7825 | 7832 | 7839 | 7846 | 1 1 2 | 3 4 4 | 5 6 6 |
| 61 | 7853 | 7860 | 7868 | 7875 | 7882 | 7889 | 7896 | 7903 | 7910 | 7917 | 1 1 2 | 3 3 4 | 5 6 6 |
| 62 | 7924 | 7931 | 7938 | 7945 | 7952 | 7959 | 7966 | 7973 | 7980 | 7987 | 1 1 2 | 3 3 4 | 5 5 6 |
| 63 | 7993 | 8000 | 8007 | 8014 | 8021 | 8028 | 8035 | 8041 | 8048 | 8055 | 1 1 2 | 3 3 4 | 5 5 6 |
| 64 | 8062 | 8069 | 8075 | 8082 | 8089 | 8096 | 8102 | 8109 | 8116 | 8122 | 1 1 2 | 3 3 4 | 5 5 6 |
| 65 | 8129 | 8136 | 8142 | 8149 | 8156 | 8162 | 8169 | 8176 | 8182 | 8189 | 1 1 2 | 3 3 4 | 5 5 6 |
| 66 | 8195 | 8202 | 8209 | 8215 | 8222 | 8228 | 8235 | 8241 | 8248 | 8254 | 1 1 2 | 3 3 4 | 5 5 6 |
| 67 | 8261 | 8267 | 8274 | 8280 | 8287 | 8293 | 8299 | 8306 | 8312 | 8319 | 1 1 2 | 3 3 4 | 5 5 6 |
| 68 | 8325 | 8331 | 8338 | 8344 | 8351 | 8357 | 8363 | 8370 | 8376 | 8382 | 1 1 2 | 3 3 4 | 4 5 6 |
| 69 | 8388 | 8395 | 8401 | 8407 | 8414 | 8420 | 8426 | 8432 | 8439 | 8445 | 1 1 2 | 3 3 4 | 4 5 6 |
| 70 | 8451 | 8457 | 8463 | 8470 | 8476 | 8482 | 8488 | 8494 | 8500 | 8506 | 1 1 2 | 3 3 4 | 4 5 6 |
| 71 | 8513 | 8519 | 8525 | 8531 | 8537 | 8543 | 8549 | 8555 | 8561 | 8567 | 1 1 2 | 3 3 4 | 4 5 6 |
| 72 | 8573 | 8579 | 8585 | 8591 | 8597 | 8603 | 8609 | 8615 | 8621 | 8627 | 1 1 2 | 3 3 4 | 4 5 6 |
| 73 | 8633 | 8639 | 8645 | 8651 | 8657 | 8663 | 8669 | 8675 | 8681 | 8686 | 1 1 2 | 2 3 4 | 4 5 5 |
| 74 | 8692 | 8698 | 8704 | 8710 | 8716 | 8722 | 8727 | 8733 | 8739 | 8745 | 1 1 2 | 2 3 4 | 4 5 5 |
| 75 | 8751 | 8756 | 8762 | 8768 | 8774 | 8779 | 8785 | 8791 | 8797 | 8802 | 1 1 2 | 2 3 3 | 4 5 5 |
| 76 | 8808 | 8814 | 8820 | 8825 | 8831 | 8837 | 8842 | 8848 | 8854 | 8859 | 1 1 2 | 2 3 3 | 4 4 5 |
| 77 | 8865 | 8871 | 8876 | 8882 | 8887 | 8893 | 8899 | 8904 | 8910 | 8915 | 1 1 2 | 2 3 3 | 4 4 5 |
| 78 | 8921 | 8927 | 8932 | 8938 | 8943 | 8949 | 8954 | 8960 | 8965 | 8971 | 1 1 2 | 2 3 3 | 4 4 5 |
| 79 | 8976 | 8982 | 8987 | 8993 | 8998 | 9004 | 9009 | 9015 | 9020 | 9025 | 1 1 2 | 2 3 3 | 4 4 5 |
| 80 | 9031 | 9036 | 9042 | 9047 | 9053 | 9058 | 9063 | 9069 | 9074 | 9079 | 1 1 2 | 2 3 3 | 4 4 5 |
| 81 | 9085 | 9090 | 9096 | 9101 | 9106 | 9112 | 9117 | 9122 | 9128 | 9133 | 1 1 2 | 2 3 3 | 4 4 5 |
| 82 | 9138 | 9143 | 9149 | 9154 | 9159 | 9165 | 9170 | 9175 | 9180 | 9186 | 1 1 2 | 2 3 3 | 4 4 5 |
| 83 | 9191 | 9196 | 9201 | 9206 | 9212 | 9217 | 9222 | 9227 | 9232 | 9238 | 1 1 2 | 2 3 3 | 4 4 5 |
| 84 | 9243 | 9248 | 9253 | 9258 | 9263 | 9269 | 9274 | 9279 | 9284 | 9289 | 1 1 2 | 2 3 3 | 4 4 5 |
| 85 | 9294 | 9299 | 9304 | 9309 | 9315 | 9320 | 9325 | 9330 | 9335 | 9340 | 1 1 2 | 2 3 3 | 4 4 5 |
| 86 | 9345 | 9350 | 9355 | 9360 | 9365 | 9370 | 9375 | 9380 | 9385 | 9390 | 1 1 2 | 2 3 3 | 4 4 5 |
| 87 | 9395 | 9400 | 9405 | 9410 | 9415 | 9420 | 9425 | 9430 | 9435 | 9440 | 1 1 2 | 2 3 3 | 4 4 5 |
| 88 | 9445 | 9450 | 9455 | 9460 | 9465 | 9469 | 9474 | 9479 | 9484 | 9489 | 0 1 1 | 2 2 3 | 3 4 4 |
| 89 | 9494 | 9499 | 9504 | 9509 | 9513 | 9518 | 9523 | 9528 | 9533 | 9538 | 0 1 1 | 2 2 3 | 3 4 4 |
| 90 | 9542 | 9547 | 9552 | 9557 | 9562 | 9566 | 9571 | 9576 | 9581 | 9586 | 0 1 1 | 2 2 3 | 3 4 4 |
| 91 | 9590 | 9595 | 9600 | 9605 | 9609 | 9614 | 9619 | 9624 | 9628 | 9633 | 0 1 1 | 2 2 3 | 3 4 4 |
| 92 | 9638 | 9643 | 9647 | 9652 | 9657 | 9661 | 9666 | 9671 | 9675 | 9680 | 0 1 1 | 2 2 3 | 3 4 4 |
| 93 | 9685 | 9689 | 9694 | 9699 | 9703 | 9708 | 9713 | 9717 | 9722 | 9727 | 0 1 1 | 2 2 3 | 3 4 4 |
| 94 | 9731 | 9736 | 9741 | 9745 | 9750 | 9754 | 9759 | 9763 | 9768 | 9773 | 0 1 1 | 2 2 3 | 3 4 4 |
| 95 | 9777 | 9782 | 9786 | 9791 | 9795 | 9800 | 9805 | 9809 | 9814 | 9818 | 0 1 1 | 2 2 3 | 3 4 4 |
| 96 | 9823 | 9827 | 9832 | 9836 | 9841 | 9845 | 9850 | 9854 | 9859 | 9863 | 0 1 1 | 2 2 3 | 3 4 4 |
| 97 | 9868 | 9872 | 9877 | 9881 | 9886 | 9890 | 9894 | 9899 | 9903 | 9908 | 0 1 1 | 2 2 3 | 3 4 4 |
| 98 | 9912 | 9917 | 9921 | 9926 | 9930 | 9934 | 9939 | 9943 | 9948 | 9952 | 0 1 1 | 2 2 3 | 3 3 4 |
| 99 | 9956 | 9961 | 9965 | 9969 | 9974 | 9978 | 9983 | 9987 | 9991 | 9996 | 0 1 1 | 2 2 3 | 3 3 4 |
| N | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 2 3 | 4 5 6 | 7 8 9 |

ing the proportional part corresponding to the fourth figure to the tabular number corresponding to the first three figures. There may be an error of 1 in the last place.

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 2 3 | 4 5 6 | 7 8 9 |
|------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| .00 | 1000 | 1002 | 1005 | 1007 | 1009 | 1012 | 1014 | 1016 | 1019 | 1021 | 0 0 1 | 1 1 1 | 2 2 2 |
| .01 | 1023 | 1026 | 1028 | 1030 | 1033 | 1035 | 1038 | 1040 | 1042 | 1045 | 0 0 1 | 1 1 1 | 2 2 2 |
| .02 | 1047 | 1050 | 1052 | 1054 | 1057 | 1059 | 1062 | 1064 | 1067 | 1069 | 0 0 1 | 1 1 1 | 2 2 2 |
| .03 | 1072 | 1074 | 1076 | 1079 | 1081 | 1084 | 1086 | 1089 | 1091 | 1094 | 0 0 1 | 1 1 1 | 2 2 2 |
| .04 | 1096 | 1099 | 1102 | 1104 | 1107 | 1109 | 1112 | 1114 | 1117 | 1119 | 0 1 1 | 1 1 2 | 2 2 2 |
| .05 | 1122 | 1125 | 1127 | 1130 | 1132 | 1135 | 1138 | 1140 | 1143 | 1146 | 0 1 1 | 1 1 2 | 2 2 2 |
| .06 | 1148 | 1151 | 1153 | 1156 | 1159 | 1161 | 1164 | 1167 | 1169 | 1172 | 0 1 1 | 1 1 2 | 2 2 2 |
| .07 | 1175 | 1178 | 1180 | 1183 | 1186 | 1189 | 1191 | 1194 | 1197 | 1199 | 0 1 1 | 1 1 2 | 2 2 2 |
| .08 | 1202 | 1205 | 1208 | 1211 | 1213 | 1216 | 1219 | 1222 | 1225 | 1227 | 0 1 1 | 1 1 2 | 2 2 3 |
| .09 | 1230 | 1233 | 1236 | 1239 | 1242 | 1245 | 1247 | 1250 | 1253 | 1256 | 0 1 1 | 1 1 2 | 2 2 3 |
| .10 | 1259 | 1262 | 1265 | 1268 | 1271 | 1274 | 1276 | 1279 | 1282 | 1285 | 0 1 1 | 1 1 2 | 2 2 3 |
| .11 | 1288 | 1291 | 1294 | 1297 | 1300 | 1303 | 1306 | 1309 | 1312 | 1315 | 0 1 1 | 1 2 2 | 2 2 3 |
| .12 | 1318 | 1321 | 1324 | 1327 | 1330 | 1334 | 1337 | 1340 | 1343 | 1346 | 0 1 1 | 1 2 2 | 2 2 3 |
| .13 | 1349 | 1352 | 1355 | 1358 | 1361 | 1365 | 1368 | 1371 | 1374 | 1377 | 0 1 1 | 1 2 2 | 2 3 3 |
| .14 | 1380 | 1384 | 1387 | 1390 | 1393 | 1396 | 1400 | 1403 | 1406 | 1409 | 0 1 1 | 1 2 2 | 2 3 3 |
| .15 | 1413 | 1416 | 1419 | 1422 | 1426 | 1429 | 1432 | 1435 | 1439 | 1442 | 0 1 1 | 1 2 2 | 2 3 3 |
| .16 | 1445 | 1449 | 1452 | 1455 | 1459 | 1462 | 1466 | 1469 | 1472 | 1476 | 0 1 1 | 1 2 2 | 2 3 3 |
| .17 | 1479 | 1483 | 1486 | 1489 | 1493 | 1496 | 1500 | 1503 | 1507 | 1510 | 0 1 1 | 1 2 2 | 2 3 3 |
| .18 | 1514 | 1517 | 1521 | 1524 | 1528 | 1531 | 1535 | 1538 | 1542 | 1545 | 0 1 1 | 1 2 2 | 2 3 3 |
| .19 | 1549 | 1552 | 1556 | 1560 | 1563 | 1567 | 1570 | 1574 | 1578 | 1581 | 0 1 1 | 1 2 2 | 2 3 3 |
| .20 | 1585 | 1589 | 1592 | 1596 | 1600 | 1603 | 1607 | 1611 | 1614 | 1618 | 0 1 1 | 1 2 2 | 3 3 3 |
| .21 | 1622 | 1626 | 1629 | 1633 | 1637 | 1641 | 1644 | 1648 | 1652 | 1656 | 0 1 1 | 1 2 2 | 3 3 3 |
| .22 | 1660 | 1663 | 1667 | 1671 | 1675 | 1679 | 1683 | 1687 | 1690 | 1694 | 0 1 1 | 2 2 2 | 3 3 3 |
| .23 | 1698 | 1702 | 1706 | 1710 | 1714 | 1718 | 1722 | 1726 | 1730 | 1734 | 0 1 1 | 2 2 2 | 3 3 3 |
| .24 | 1738 | 1742 | 1746 | 1750 | 1754 | 1758 | 1762 | 1766 | 1770 | 1774 | 0 1 1 | 2 2 2 | 3 3 4 |
| .25 | 1778 | 1782 | 1786 | 1791 | 1795 | 1799 | 1803 | 1807 | 1811 | 1816 | 0 1 1 | 2 2 3 | 3 3 4 |
| .26 | 1820 | 1824 | 1828 | 1832 | 1837 | 1841 | 1845 | 1849 | 1854 | 1858 | 0 1 1 | 2 2 3 | 3 3 4 |
| .27 | 1862 | 1866 | 1871 | 1875 | 1879 | 1884 | 1888 | 1892 | 1897 | 1901 | 0 1 1 | 2 2 3 | 3 3 4 |
| .28 | 1905 | 1910 | 1914 | 1919 | 1923 | 1928 | 1932 | 1936 | 1941 | 1945 | 0 1 1 | 2 2 3 | 3 4 4 |
| .29 | 1950 | 1954 | 1959 | 1963 | 1968 | 1972 | 1977 | 1982 | 1986 | 1991 | 0 1 1 | 2 2 3 | 3 4 4 |
| .30 | 1995 | 2000 | 2004 | 2009 | 2014 | 2018 | 2023 | 2028 | 2032 | 2037 | 0 1 1 | 2 2 3 | 3 4 4 |
| .31 | 2042 | 2046 | 2051 | 2056 | 2061 | 2065 | 2070 | 2075 | 2080 | 2084 | 0 1 1 | 2 2 3 | 3 4 4 |
| .32 | 2089 | 2094 | 2099 | 2104 | 2109 | 2113 | 2118 | 2123 | 2128 | 2133 | 0 1 1 | 2 2 3 | 3 4 4 |
| .33 | 2138 | 2143 | 2148 | 2153 | 2158 | 2163 | 2168 | 2173 | 2178 | 2183 | 0 1 1 | 2 2 3 | 3 4 4 |
| .34 | 2188 | 2193 | 2198 | 2203 | 2208 | 2213 | 2218 | 2223 | 2228 | 2234 | 1 1 2 | 2 3 3 | 4 4 5 |
| .35 | 2239 | 2244 | 2249 | 2254 | 2259 | 2265 | 2270 | 2275 | 2280 | 2286 | 1 1 2 | 2 3 3 | 4 4 5 |
| .36 | 2291 | 2296 | 2301 | 2307 | 2312 | 2317 | 2323 | 2328 | 2333 | 2339 | 1 1 2 | 2 3 3 | 4 4 5 |
| .37 | 2344 | 2350 | 2355 | 2360 | 2366 | 2371 | 2377 | 2382 | 2388 | 2393 | 1 1 2 | 2 3 3 | 4 4 5 |
| .38 | 2399 | 2404 | 2410 | 2415 | 2421 | 2427 | 2432 | 2438 | 2443 | 2449 | 1 1 2 | 2 3 3 | 4 5 5 |
| .39 | 2455 | 2460 | 2466 | 2472 | 2477 | 2483 | 2489 | 2495 | 2500 | 2506 | 1 1 2 | 2 3 3 | 4 5 5 |
| .40 | 2512 | 2518 | 2523 | 2529 | 2535 | 2541 | 2547 | 2553 | 2559 | 2564 | 1 1 2 | 2 3 4 | 4 5 5 |
| .41 | 2570 | 2576 | 2582 | 2588 | 2594 | 2600 | 2606 | 2612 | 2618 | 2624 | 1 1 2 | 2 3 4 | 4 5 6 |
| .42 | 2630 | 2636 | 2642 | 2649 | 2655 | 2661 | 2667 | 2673 | 2679 | 2685 | 1 1 2 | 2 3 4 | 4 5 6 |
| .43 | 2692 | 2698 | 2704 | 2710 | 2716 | 2723 | 2729 | 2735 | 2742 | 2748 | 1 1 2 | 2 3 4 | 4 5 6 |
| .44 | 2754 | 2761 | 2767 | 2773 | 2780 | 2786 | 2793 | 2799 | 2805 | 2812 | 1 1 2 | 3 3 4 | 4 5 6 |
| .45 | 2818 | 2825 | 2831 | 2838 | 2844 | 2851 | 2858 | 2864 | 2871 | 2877 | 1 1 2 | 3 3 4 | 5 5 6 |
| .46 | 2884 | 2891 | 2897 | 2904 | 2911 | 2917 | 2924 | 2931 | 2938 | 2944 | 1 1 2 | 3 3 4 | 5 5 6 |
| .47 | 2951 | 2958 | 2965 | 2972 | 2979 | 2985 | 2992 | 2999 | 3006 | 3013 | 1 1 2 | 3 3 4 | 5 6 6 |
| .48 | 3020 | 3027 | 3034 | 3041 | 3048 | 3055 | 3062 | 3069 | 3076 | 3083 | 1 1 2 | 3 3 4 | 5 6 6 |
| .49 | 3090 | 3097 | 3105 | 3112 | 3119 | 3126 | 3133 | 3141 | 3148 | 3155 | 1 1 2 | 3 4 4 | 5 6 6 |

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 2 3 | 4 5 6 | 7 8 9 |
|------------|------|------|------|------|------|------|------|------|------|------|-------|---------|----------|
| .50 | 3162 | 3170 | 3177 | 3184 | 3192 | 3199 | 3206 | 3214 | 3221 | 3228 | 1 1 2 | 3 4 4 | 5 6 7 |
| .51 | 3236 | 3243 | 3251 | 3258 | 3266 | 3273 | 3281 | 3289 | 3296 | 3304 | 1 1 2 | 3 4 4 | 5 6 7 |
| .52 | 3311 | 3319 | 3327 | 3334 | 3342 | 3350 | 3357 | 3365 | 3373 | 3381 | 1 1 2 | 3 4 5 | 5 6 7 |
| .53 | 3388 | 3396 | 3404 | 3412 | 3420 | 3428 | 3436 | 3443 | 3451 | 3459 | 1 2 2 | 3 4 5 | 6 6 7 |
| .54 | 3467 | 3475 | 3483 | 3491 | 3499 | 3508 | 3516 | 3524 | 3532 | 3540 | 1 2 2 | 3 4 5 | 6 6 7 |
| .55 | 3548 | 3556 | 3565 | 3573 | 3581 | 3589 | 3597 | 3606 | 3614 | 3622 | 1 2 2 | 3 4 5 | 6 7 7 |
| .56 | 3631 | 3639 | 3648 | 3656 | 3664 | 3673 | 3681 | 3690 | 3698 | 3707 | 1 2 2 | 3 4 5 | 6 7 8 |
| .57 | 3715 | 3724 | 3733 | 3741 | 3750 | 3758 | 3767 | 3776 | 3784 | 3793 | 1 2 3 | 3 4 5 | 6 7 8 |
| .58 | 3802 | 3811 | 3819 | 3828 | 3837 | 3846 | 3855 | 3864 | 3873 | 3882 | 1 2 3 | 3 4 5 | 6 7 8 |
| .59 | 3890 | 3899 | 3908 | 3917 | 3926 | 3936 | 3945 | 3954 | 3963 | 3972 | 1 2 3 | 4 5 5 | 6 7 8 |
| .60 | 3981 | 3990 | 3999 | 4009 | 4018 | 4027 | 4036 | 4046 | 4055 | 4064 | 1 2 3 | 4 5 6 | 7 8 8 |
| .61 | 4074 | 4083 | 4093 | 4102 | 4111 | 4121 | 4130 | 4140 | 4150 | 4159 | 1 2 3 | 4 5 6 | 7 8 9 |
| .62 | 4169 | 4178 | 4188 | 4198 | 4207 | 4217 | 4227 | 4236 | 4246 | 4256 | 1 2 3 | 4 5 6 | 7 8 9 |
| .63 | 4266 | 4276 | 4285 | 4295 | 4305 | 4315 | 4325 | 4335 | 4345 | 4355 | 1 2 3 | 4 5 6 | 7 8 9 |
| .64 | 4365 | 4375 | 4385 | 4395 | 4406 | 4416 | 4426 | 4436 | 4446 | 4457 | 1 2 3 | 4 5 6 | 7 8 9 |
| .65 | 4467 | 4477 | 4487 | 4498 | 4508 | 4519 | 4529 | 4539 | 4550 | 4560 | 1 2 3 | 4 5 6 | 7 8 9 |
| .66 | 4571 | 4581 | 4592 | 4603 | 4613 | 4624 | 4634 | 4645 | 4656 | 4667 | 1 2 3 | 4 5 6 | 7 9 10 |
| .67 | 4677 | 4688 | 4699 | 4710 | 4721 | 4732 | 4742 | 4753 | 4764 | 4775 | 1 2 3 | 4 5 7 | 8 9 10 |
| .68 | 4786 | 4797 | 4808 | 4819 | 4831 | 4842 | 4853 | 4864 | 4875 | 4887 | 1 2 3 | 5 6 7 | 8 9 10 |
| .69 | 4898 | 4909 | 4920 | 4932 | 4943 | 4955 | 4966 | 4977 | 4989 | 5000 | 1 2 3 | 5 6 7 | 8 9 10 |
| .70 | 5012 | 5023 | 5035 | 5047 | 5058 | 5070 | 5082 | 5093 | 5105 | 5117 | 1 2 3 | 5 6 7 | 8 9 10 |
| .71 | 5129 | 5140 | 5152 | 5164 | 5176 | 5188 | 5200 | 5212 | 5224 | 5236 | 1 2 4 | 5 6 7 | 8 10 11 |
| .72 | 5248 | 5260 | 5272 | 5284 | 5297 | 5309 | 5321 | 5333 | 5346 | 5358 | 1 2 4 | 5 6 7 | 9 10 11 |
| .73 | 5370 | 5383 | 5395 | 5408 | 5420 | 5433 | 5445 | 5458 | 5470 | 5483 | 1 3 4 | 5 6 7 | 9 10 11 |
| .74 | 5495 | 5508 | 5521 | 5534 | 5546 | 5559 | 5572 | 5585 | 5598 | 5610 | 1 3 4 | 5 6 8 | 9 10 12 |
| .75 | 5623 | 5636 | 5649 | 5662 | 5675 | 5689 | 5702 | 5715 | 5728 | 5741 | 1 3 4 | 5 7 8 | 9 11 12 |
| .76 | 5754 | 5768 | 5781 | 5794 | 5808 | 5821 | 5834 | 5848 | 5861 | 5875 | 1 3 4 | 5 7 8 | 9 11 12 |
| .77 | 5888 | 5902 | 5916 | 5929 | 5943 | 5957 | 5970 | 5984 | 5998 | 6012 | 1 3 4 | 5 7 8 | 10 11 12 |
| .78 | 6026 | 6039 | 6053 | 6067 | 6081 | 6095 | 6109 | 6124 | 6138 | 6152 | 1 3 4 | 6 7 8 | 10 11 13 |
| .79 | 6166 | 6180 | 6194 | 6209 | 6223 | 6237 | 6252 | 6266 | 6281 | 6295 | 1 3 4 | 6 7 9 | 10 11 13 |
| .80 | 6310 | 6324 | 6339 | 6353 | 6368 | 6383 | 6397 | 6412 | 6427 | 6442 | 1 3 4 | 6 7 9 | 10 12 13 |
| .81 | 6457 | 6471 | 6486 | 6501 | 6516 | 6531 | 6546 | 6561 | 6577 | 6592 | 2 3 5 | 6 8 9 | 11 12 14 |
| .82 | 6607 | 6622 | 6637 | 6653 | 6668 | 6683 | 6699 | 6714 | 6730 | 6745 | 2 3 5 | 6 8 9 | 11 12 14 |
| .83 | 6761 | 6776 | 6792 | 6808 | 6823 | 6839 | 6855 | 6871 | 6887 | 6902 | 2 3 5 | 6 8 9 | 11 13 14 |
| .84 | 6918 | 6934 | 6950 | 6966 | 6982 | 6998 | 7015 | 7031 | 7047 | 7063 | 2 3 5 | 7 8 10 | 11 13 15 |
| .85 | 7079 | 7096 | 7112 | 7129 | 7145 | 7161 | 7178 | 7194 | 7211 | 7228 | 2 3 5 | 7 8 10 | 12 13 15 |
| .86 | 7244 | 7261 | 7278 | 7295 | 7311 | 7328 | 7345 | 7362 | 7379 | 7396 | 2 3 5 | 7 8 10 | 12 14 15 |
| .87 | 7413 | 7430 | 7447 | 7464 | 7482 | 7499 | 7516 | 7534 | 7551 | 7568 | 2 4 5 | 7 9 10 | 12 14 16 |
| .88 | 7586 | 7603 | 7621 | 7638 | 7656 | 7674 | 7691 | 7709 | 7727 | 7745 | 2 4 5 | 7 9 11 | 12 14 16 |
| .89 | 7762 | 7780 | 7798 | 7816 | 7834 | 7852 | 7870 | 7889 | 7907 | 7925 | 2 4 6 | 7 9 11 | 13 15 16 |
| .90 | 7943 | 7962 | 7980 | 7998 | 8017 | 8035 | 8054 | 8072 | 8091 | 8110 | 2 4 6 | 7 9 11 | 13 15 17 |
| .91 | 8128 | 8147 | 8166 | 8185 | 8204 | 8222 | 8241 | 8260 | 8279 | 8299 | 2 4 6 | 8 9 11 | 13 15 17 |
| .92 | 8318 | 8337 | 8356 | 8375 | 8395 | 8414 | 8433 | 8453 | 8472 | 8492 | 2 4 6 | 8 10 12 | 14 15 17 |
| .93 | 8511 | 8531 | 8551 | 8570 | 8590 | 8610 | 8630 | 8650 | 8670 | 8690 | 2 4 6 | 8 10 12 | 14 16 18 |
| .94 | 8710 | 8730 | 8750 | 8770 | 8790 | 8810 | 8831 | 8851 | 8872 | 8892 | 2 4 6 | 8 10 12 | 14 16 18 |
| .95 | 8913 | 8933 | 8954 | 8974 | 8995 | 9016 | 9036 | 9057 | 9078 | 9099 | 2 4 6 | 8 10 12 | 15 17 19 |
| .96 | 9120 | 9141 | 9162 | 9183 | 9204 | 9226 | 9247 | 9268 | 9290 | 9311 | 2 4 6 | 9 11 13 | 15 17 19 |
| .97 | 9333 | 9354 | 9376 | 9397 | 9419 | 9441 | 9462 | 9484 | 9506 | 9528 | 2 4 6 | 9 11 13 | 15 17 19 |
| .98 | 9550 | 9572 | 9594 | 9616 | 9638 | 9661 | 9683 | 9705 | 9727 | 9750 | 2 4 7 | 9 11 13 | 16 18 20 |
| .99 | 9772 | 9795 | 9817 | 9840 | 9863 | 9886 | 9908 | 9931 | 9954 | 9977 | 2 5 7 | 9 11 14 | 16 18 21 |

[Characteristics of Logarithms omitted — determine by the usual rule from the value]

| RADIANs | DEGREEs | SINE | | TANGENT | | COTANGENT | | COSINE | | | |
|---------|---------|--------|-------------------|-----------|-------------------|-----------|-------------------|--------|-------------------|---------|---------|
| | | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | | |
| .0000 | 0° 00' | .0000 | — | .0000 | — | — | — | 1.0000 | .0000 | 90° 00' | 1.5708 |
| .0029 | 10 | .0029 | .4637 | .0029 | .4637 | 343.77 | .5363 | 1.0000 | .0000 | 50 | 1.5679 |
| .0058 | 20 | .0058 | .7648 | .0058 | .7648 | 171.89 | .2352 | 1.0000 | .0000 | 40 | 1.5650 |
| .0087 | 30 | .0087 | .9408 | .0087 | .9409 | 114.59 | .0591 | 1.0000 | .0000 | 30 | 1.5621 |
| .0116 | 40 | .0116 | .0658 | .0116 | .0658 | 85.940 | .9342 | .9999 | .0000 | 20 | 1.5592 |
| .0145 | 50 | .0145 | .1627 | .0145 | .1627 | 68.750 | .8373 | .9999 | .0000 | 10 | 1.5563 |
| .0175 | 1° 00' | .0175 | .2419 | .0175 | .2419 | 57.290 | .7581 | .9998 | .9999 | 89° 00' | 1.5533 |
| .0204 | 10 | .0204 | .3088 | .0204 | .3089 | 49.104 | .6911 | .9998 | .9999 | 50 | 1.5504 |
| .0233 | 20 | .0233 | .3668 | .0233 | .3669 | 42.964 | .6331 | .9997 | .9999 | 40 | 1.5475 |
| .0262 | 30 | .0262 | .4179 | .0262 | .4181 | 38.188 | .5819 | .9997 | .9999 | 30 | 1.5446 |
| .0291 | 40 | .0291 | .4637 | .0291 | .4638 | 34.368 | .5362 | .9996 | .9998 | 20 | 1.5417 |
| .0320 | 50 | .0320 | .5050 | .0320 | .5053 | 31.242 | .4947 | .9995 | .9998 | 10 | 1.5388 |
| .0349 | 2° 00' | .0349 | .5428 | .0349 | .5431 | 28.636 | .4569 | .9994 | .9997 | 88° 00' | 1.5359 |
| .0378 | 10 | .0378 | .5776 | .0378 | .5779 | 26.432 | .4221 | .9993 | .9997 | 50 | 1.5330 |
| .0407 | 20 | .0407 | .6097 | .0407 | .6101 | 24.542 | .3899 | .9992 | .9996 | 40 | 1.5301 |
| .0436 | 30 | .0436 | .6397 | .0437 | .6401 | 22.904 | .3599 | .9990 | .9996 | 30 | 1.5272 |
| .0465 | 40 | .0465 | .6677 | .0466 | .6682 | 21.470 | .3318 | .9989 | .9995 | 20 | 1.5243 |
| .0495 | 50 | .0494 | .6940 | .0495 | .6945 | 20.206 | .3055 | .9988 | .9995 | 10 | 1.5213 |
| .0524 | 3° 00' | .0523 | .7188 | .0524 | .7194 | 19.081 | .2806 | .9986 | .9994 | 87° 00' | 1.5184 |
| .0553 | 10 | .0552 | .7423 | .0553 | .7429 | 18.075 | .2571 | .9985 | .9993 | 50 | 1.5155 |
| .0582 | 20 | .0581 | .7645 | .0582 | .7652 | 17.169 | .2348 | .9983 | .9993 | 40 | 1.5126 |
| .0611 | 30 | .0610 | .7857 | .0612 | .7865 | 16.350 | .2135 | .9981 | .9992 | 30 | 1.5097 |
| .0640 | 40 | .0640 | .8059 | .0641 | .8067 | 15.605 | .1933 | .9980 | .9991 | 20 | 1.5068 |
| .0669 | 50 | .0669 | .8251 | .0670 | .8261 | 14.924 | .1739 | .9978 | .9990 | 10 | 1.5039 |
| .0698 | 4° 00' | .0698 | .8436 | .0699 | .8446 | 14.301 | .1554 | .9976 | .9989 | 86° 00' | 1.5010 |
| .0727 | 10 | .0727 | .8613 | .0729 | .8624 | 13.727 | .1376 | .9974 | .9989 | 50 | 1.4981 |
| .0756 | 20 | .0756 | .8783 | .0758 | .8795 | 13.197 | .1205 | .9971 | .9988 | 40 | 1.4952 |
| .0785 | 30 | .0785 | .8946 | .0787 | .8960 | 12.706 | .1040 | .9969 | .9987 | 30 | 1.4923 |
| .0814 | 40 | .0814 | .9104 | .0816 | .9118 | 12.251 | .0882 | .9967 | .9986 | 20 | 1.4893 |
| .0844 | 50 | .0843 | .9256 | .0846 | .9272 | 11.826 | .0728 | .9964 | .9985 | 10 | 1.4864 |
| .0873 | 5° 00' | .0872 | .9403 | .0875 | .9420 | 11.430 | .0580 | .9962 | .9983 | 85° 00' | 1.4835 |
| .0902 | 10 | .0901 | .9545 | .0904 | .9563 | 11.059 | .0437 | .9959 | .9982 | 50 | 1.4806 |
| .0931 | 20 | .0929 | .9682 | .0934 | .9701 | 10.712 | .0299 | .9957 | .9981 | 40 | 1.4777 |
| .0960 | 30 | .0958 | .9816 | .0963 | .9836 | 10.385 | .0164 | .9954 | .9980 | 30 | 1.4748 |
| .0989 | 40 | .0987 | .9945 | .0992 | .9966 | 10.078 | .0034 | .9951 | .9979 | 20 | 1.4719 |
| .1018 | 50 | .1016 | .0070 | .1022 | .0093 | 9.7882 | .9907 | .9948 | .9977 | 10 | 1.4690 |
| .1047 | 6° 00' | .1045 | .0192 | .1051 | .0216 | 9.5144 | .9784 | .9945 | .9976 | 84° 00' | 1.4661 |
| .1076 | 10 | .1074 | .0311 | .1080 | .0336 | 9.2553 | .9664 | .9942 | .9975 | 50 | 1.4632 |
| .1105 | 20 | .1103 | .0426 | .1110 | .0453 | 9.0098 | .9547 | .9939 | .9973 | 40 | 1.4603 |
| .1134 | 30 | .1132 | .0539 | .1139 | .0567 | 8.7769 | .9433 | .9936 | .9972 | 30 | 1.4573 |
| .1164 | 40 | .1161 | .0648 | .1169 | .0678 | 8.5555 | .9322 | .9932 | .9971 | 20 | 1.4544 |
| .1193 | 50 | .1190 | .0755 | .1198 | .0786 | 8.3450 | .9214 | .9929 | .9969 | 10 | 1.4515 |
| .1222 | 7° 00' | .1219 | .0859 | .1228 | .0891 | 8.1443 | .9109 | .9925 | .9968 | 83° 00' | 1.4486 |
| .1251 | 10 | .1248 | .0961 | .1257 | .0995 | 7.9530 | .9005 | .9922 | .9966 | 50 | 1.4457 |
| .1280 | 20 | .1276 | .1060 | .1287 | .1096 | 7.7704 | .8904 | .9918 | .9964 | 40 | 1.4428 |
| .1309 | 30 | .1305 | .1157 | .1317 | .1194 | 7.5958 | .8806 | .9914 | .9963 | 30 | 1.4399 |
| .1338 | 40 | .1334 | .1252 | .1346 | .1291 | 7.4287 | .8709 | .9911 | .9961 | 20 | 1.4370 |
| .1367 | 50 | .1363 | .1345 | .1376 | .1385 | 7.2687 | .8615 | .9907 | .9959 | 10 | 1.4341 |
| .1396 | 8° 00' | .1392 | .1436 | .1405 | .1478 | 7.1154 | .8522 | .9903 | .9958 | 82° 00' | 1.4312 |
| .1425 | 10 | .1421 | .1525 | .1435 | .1569 | 6.9682 | .8431 | .9899 | .9956 | 50 | 1.4283 |
| .1454 | 20 | .1449 | .1612 | .1465 | .1658 | 6.8269 | .8342 | .9894 | .9954 | 40 | 1.4254 |
| .1484 | 30 | .1478 | .1697 | .1495 | .1745 | 6.6912 | .8255 | .9890 | .9952 | 30 | 1.4224 |
| .1513 | 40 | .1507 | .1781 | .1524 | .1831 | 6.5606 | .8169 | .9886 | .9950 | 20 | 1.4195 |
| .1542 | 50 | .1536 | .1863 | .1554 | .1915 | 6.4348 | .8085 | .9881 | .9948 | 10 | 1.4166 |
| .1571 | 9° 00' | .1564 | .1943 | .1584 | .1997 | 6.3138 | .8003 | .9877 | .9946 | 81° 00' | 1.4137 |
| | | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | DEGREEs | RADIANs |
| | | COSINE | | COTANGENT | | TANGENT | | SINE | | | |

[Characteristics of Logarithms omitted — determine by the usual rule from the value]

| RADIANs | DEGREEs | SINE | | TANGENT | | COTANGENT | | COSINE | | | |
|---------|---------|--------|-------------------|-----------|-------------------|-----------|-------------------|--------|-------------------|---------|---------|
| | | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | | |
| .1571 | 9° 00' | .1564 | .1943 | .1584 | .1997 | 6.3138 | .8003 | .9877 | .9946 | 81° 00' | 1.4137 |
| .1600 | 10 | .1593 | .2022 | .1614 | .2078 | 6.1970 | .7922 | .9872 | .9944 | 50 | 1.4108 |
| .1629 | 20 | .1622 | .2100 | .1644 | .2158 | 6.0844 | .7842 | .9868 | .9942 | 40 | 1.4079 |
| .1658 | 30 | .1650 | .2176 | .1673 | .2236 | 5.9758 | .7764 | .9863 | .9940 | 30 | 1.4050 |
| .1687 | 40 | .1679 | .2251 | .1703 | .2313 | 5.8708 | .7687 | .9858 | .9938 | 20 | 1.4021 |
| .1716 | 50 | .1708 | .2324 | .1733 | .2389 | 5.7694 | .7611 | .9853 | .9936 | 10 | 1.3992 |
| .1745 | 10° 00' | .1736 | .2397 | .1763 | .2463 | 5.6713 | .7537 | .9848 | .9934 | 80° 00' | 1.3963 |
| .1774 | 10 | .1765 | .2468 | .1793 | .2536 | 5.5764 | .7464 | .9843 | .9931 | 50 | 1.3934 |
| .1804 | 20 | .1794 | .2538 | .1823 | .2609 | 5.4845 | .7391 | .9838 | .9929 | 40 | 1.3904 |
| .1833 | 30 | .1822 | .2606 | .1853 | .2680 | 5.3955 | .7320 | .9833 | .9927 | 30 | 1.3875 |
| .1862 | 40 | .1851 | .2674 | .1883 | .2750 | 5.3093 | .7250 | .9827 | .9924 | 20 | 1.3846 |
| .1891 | 50 | .1880 | .2740 | .1914 | .2819 | 5.2257 | .7181 | .9822 | .9922 | 10 | 1.3817 |
| .1920 | 11° 00' | .1908 | .2806 | .1944 | .2887 | 5.1446 | .7113 | .9816 | .9919 | 79° 00' | 1.3788 |
| .1949 | 10 | .1937 | .2870 | .1974 | .2953 | 5.0658 | .7047 | .9811 | .9917 | 50 | 1.3759 |
| .1978 | 20 | .1965 | .2934 | .2004 | .3020 | 4.9894 | .6980 | .9805 | .9914 | 40 | 1.3730 |
| .2007 | 30 | .1994 | .2997 | .2035 | .3085 | 4.9152 | .6915 | .9799 | .9912 | 30 | 1.3701 |
| .2036 | 40 | .2022 | .3058 | .2065 | .3149 | 4.8430 | .6851 | .9793 | .9909 | 20 | 1.3672 |
| .2065 | 50 | .2051 | .3119 | .2095 | .3212 | 4.7729 | .6788 | .9787 | .9907 | 10 | 1.3643 |
| .2094 | 12° 00' | .2079 | .3179 | .2126 | .3275 | 4.7046 | .6725 | .9781 | .9904 | 78° 00' | 1.3614 |
| .2123 | 10 | .2108 | .3238 | .2156 | .3336 | 4.6382 | .6664 | .9775 | .9901 | 50 | 1.3584 |
| .2153 | 20 | .2136 | .3296 | .2186 | .3397 | 4.5736 | .6603 | .9769 | .9899 | 40 | 1.3555 |
| .2182 | 30 | .2164 | .3353 | .2217 | .3458 | 4.5107 | .6542 | .9763 | .9896 | 30 | 1.3526 |
| .2211 | 40 | .2193 | .3410 | .2247 | .3517 | 4.4494 | .6483 | .9757 | .9893 | 20 | 1.3497 |
| .2240 | 50 | .2221 | .3466 | .2278 | .3576 | 4.3897 | .6424 | .9750 | .9890 | 10 | 1.3468 |
| .2269 | 13° 00' | .2250 | .3521 | .2309 | .3634 | 4.3315 | .6366 | .9744 | .9887 | 77° 00' | 1.3439 |
| .2298 | 10 | .2278 | .3575 | .2339 | .3691 | 4.2747 | .6309 | .9737 | .9884 | 50 | 1.3410 |
| .2327 | 20 | .2306 | .3629 | .2370 | .3748 | 4.2193 | .6252 | .9730 | .9881 | 40 | 1.3381 |
| .2356 | 30 | .2334 | .3682 | .2401 | .3804 | 4.1653 | .6196 | .9724 | .9878 | 30 | 1.3352 |
| .2385 | 40 | .2363 | .3734 | .2432 | .3859 | 4.1126 | .6141 | .9717 | .9875 | 20 | 1.3323 |
| .2414 | 50 | .2391 | .3786 | .2462 | .3914 | 4.0611 | .6086 | .9710 | .9872 | 10 | 1.3294 |
| .2443 | 14° 00' | .2419 | .3837 | .2493 | .3968 | 4.0108 | .6032 | .9703 | .9869 | 76° 00' | 1.3265 |
| .2473 | 10 | .2447 | .3887 | .2524 | .4021 | 3.9617 | .5979 | .9696 | .9866 | 50 | 1.3235 |
| .2502 | 20 | .2476 | .3937 | .2555 | .4074 | 3.9136 | .5926 | .9689 | .9863 | 40 | 1.3206 |
| .2531 | 30 | .2504 | .3986 | .2586 | .4127 | 3.8667 | .5873 | .9681 | .9859 | 30 | 1.3177 |
| .2560 | 40 | .2532 | .4035 | .2617 | .4178 | 3.8208 | .5822 | .9674 | .9856 | 20 | 1.3148 |
| .2589 | 50 | .2560 | .4083 | .2648 | .4230 | 3.7760 | .5770 | .9667 | .9853 | 10 | 1.3119 |
| .2618 | 15° 00' | .2588 | .4130 | .2679 | .4281 | 3.7321 | .5719 | .9659 | .9849 | 75° 00' | 1.3090 |
| .2647 | 10 | .2616 | .4177 | .2711 | .4331 | 3.6891 | .5669 | .9652 | .9846 | 50 | 1.3061 |
| .2676 | 20 | .2644 | .4223 | .2742 | .4381 | 3.6470 | .5619 | .9644 | .9843 | 40 | 1.3032 |
| .2705 | 30 | .2672 | .4269 | .2773 | .4430 | 3.6059 | .5570 | .9636 | .9839 | 30 | 1.3003 |
| .2734 | 40 | .2700 | .4314 | .2805 | .4479 | 3.5656 | .5521 | .9628 | .9836 | 20 | 1.2974 |
| .2763 | 50 | .2728 | .4359 | .2836 | .4527 | 3.5261 | .5473 | .9621 | .9832 | 10 | 1.2945 |
| .2793 | 16° 00' | .2756 | .4403 | .2867 | .4575 | 3.4874 | .5425 | .9613 | .9828 | 74° 00' | 1.2915 |
| .2822 | 10 | .2784 | .4447 | .2899 | .4622 | 3.4495 | .5378 | .9605 | .9825 | 50 | 1.2886 |
| .2851 | 20 | .2812 | .4491 | .2931 | .4669 | 3.4124 | .5331 | .9596 | .9821 | 40 | 1.2857 |
| .2880 | 30 | .2840 | .4533 | .2962 | .4716 | 3.3759 | .5284 | .9588 | .9817 | 30 | 1.2828 |
| .2909 | 40 | .2868 | .4576 | .2994 | .4762 | 3.3402 | .5238 | .9580 | .9814 | 20 | 1.2799 |
| .2938 | 50 | .2896 | .4618 | .3026 | .4808 | 3.3052 | .5192 | .9572 | .9810 | 10 | 1.2770 |
| .2967 | 17° 00' | .2924 | .4659 | .3057 | .4853 | 3.2709 | .5147 | .9563 | .9806 | 73° 00' | 1.2741 |
| .2996 | 10 | .2952 | .4700 | .3089 | .4898 | 3.2371 | .5102 | .9555 | .9802 | 50 | 1.2712 |
| .3025 | 20 | .2979 | .4741 | .3121 | .4943 | 3.2041 | .5057 | .9546 | .9798 | 40 | 1.2683 |
| .3054 | 30 | .3007 | .4781 | .3153 | .4987 | 3.1716 | .5013 | .9537 | .9794 | 30 | 1.2654 |
| .3083 | 40 | .3035 | .4821 | .3185 | .5031 | 3.1397 | .4969 | .9528 | .9790 | 20 | 1.2625 |
| .3113 | 50 | .3062 | .4861 | .3217 | .5075 | 3.1084 | .4925 | .9520 | .9786 | 10 | 1.2595 |
| .3142 | 18° 00' | .3090 | .4900 | .3249 | .5118 | 3.0777 | .4882 | .9511 | .9782 | 72° 00' | 1.2566 |
| | | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | DEGREEs | RADIANS |
| | | COSINE | | COTANGENT | | TANGENT | | SINE | | | |

[Characteristics of Logarithms omitted — determine by the usual rule from the value]

| RADIANS | DEGREES | SINE | | TANGENT | | COTANGENT | | COSINE | | | |
|---------|---------|--------|-------------------|-----------|-------------------|-----------|-------------------|--------|-------------------|---------|---------|
| | | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | | |
| .3142 | 18° 00' | .3090 | .4900 | .3249 | .5118 | 3.0777 | .4882 | .9511 | .9782 | 72° 00' | 1.2566 |
| .3171 | 10 | .3118 | .4939 | .3281 | .5161 | 3.0475 | .4839 | .9502 | .9778 | 50 | 1.2537 |
| .3200 | 20 | .3145 | .4977 | .3314 | .5203 | 3.0178 | .4797 | .9492 | .9774 | 40 | 1.2508 |
| .3229 | 30 | .3173 | .5015 | .3346 | .5245 | 2.9887 | .4755 | .9483 | .9770 | 30 | 1.2479 |
| .3258 | 40 | .3201 | .5052 | .3378 | .5287 | 2.9600 | .4713 | .9474 | .9765 | 20 | 1.2450 |
| .3287 | 50 | .3228 | .5090 | .3411 | .5329 | 2.9319 | .4671 | .9465 | .9761 | 10 | 1.2421 |
| .3316 | 19° 00' | .3256 | .5126 | .3443 | .5370 | 2.9042 | .4630 | .9455 | .9757 | 71° 00' | 1.2392 |
| .3345 | 10 | .3283 | .5163 | .3476 | .5411 | 2.8770 | .4589 | .9446 | .9752 | 50 | 1.2363 |
| .3374 | 20 | .3311 | .5199 | .3508 | .5451 | 2.8502 | .4549 | .9436 | .9748 | 40 | 1.2334 |
| .3403 | 30 | .3338 | .5235 | .3541 | .5491 | 2.8239 | .4509 | .9426 | .9743 | 30 | 1.2305 |
| .3432 | 40 | .3365 | .5270 | .3574 | .5531 | 2.7980 | .4469 | .9417 | .9739 | 20 | 1.2275 |
| .3462 | 50 | .3393 | .5306 | .3607 | .5571 | 2.7725 | .4429 | .9407 | .9734 | 10 | 1.2246 |
| .3491 | 20° 00' | .3420 | .5341 | .3640 | .5611 | 2.7475 | .4389 | .9397 | .9730 | 70° 00' | 1.2217 |
| .3520 | 10 | .3448 | .5375 | .3673 | .5650 | 2.7228 | .4350 | .9387 | .9725 | 50 | 1.2188 |
| .3549 | 20 | .3475 | .5409 | .3706 | .5689 | 2.6985 | .4311 | .9377 | .9721 | 40 | 1.2159 |
| .3578 | 30 | .3502 | .5443 | .3739 | .5727 | 2.6746 | .4273 | .9367 | .9716 | 30 | 1.2130 |
| .3607 | 40 | .3529 | .5477 | .3772 | .5766 | 2.6511 | .4234 | .9356 | .9711 | 20 | 1.2101 |
| .3636 | 50 | .3557 | .5510 | .3805 | .5804 | 2.6279 | .4196 | .9346 | .9706 | 10 | 1.2072 |
| .3665 | 21° 00' | .3584 | .5543 | .3839 | .5842 | 2.6051 | .4158 | .9336 | .9702 | 69° 00' | 1.2043 |
| .3694 | 10 | .3611 | .5576 | .3872 | .5879 | 2.5826 | .4121 | .9325 | .9697 | 50 | 1.2014 |
| .3723 | 20 | .3638 | .5609 | .3906 | .5917 | 2.5605 | .4083 | .9315 | .9692 | 40 | 1.1985 |
| .3752 | 30 | .3665 | .5641 | .3939 | .5954 | 2.5386 | .4046 | .9304 | .9687 | 30 | 1.1956 |
| .3782 | 40 | .3692 | .5673 | .3973 | .5991 | 2.5172 | .4009 | .9293 | .9682 | 20 | 1.1926 |
| .3811 | 50 | .3719 | .5704 | .4006 | .6028 | 2.4960 | .3972 | .9283 | .9677 | 10 | 1.1897 |
| .3840 | 22° 00' | .3746 | .5736 | .4040 | .6064 | 2.4751 | .3936 | .9272 | .9672 | 68° 00' | 1.1868 |
| .3869 | 10 | .3773 | .5767 | .4074 | .6100 | 2.4545 | .3900 | .9261 | .9667 | 50 | 1.1839 |
| .3898 | 20 | .3800 | .5798 | .4108 | .6136 | 2.4342 | .3864 | .9250 | .9661 | 40 | 1.1810 |
| .3927 | 30 | .3827 | .5828 | .4142 | .6172 | 2.4142 | .3828 | .9239 | .9656 | 30 | 1.1781 |
| .3956 | 40 | .3854 | .5859 | .4176 | .6208 | 2.3945 | .3792 | .9228 | .9651 | 20 | 1.1752 |
| .3985 | 50 | .3881 | .5889 | .4210 | .6243 | 2.3750 | .3757 | .9216 | .9646 | 10 | 1.1723 |
| .4014 | 23° 00' | .3907 | .5919 | .4245 | .6279 | 2.3559 | .3721 | .9205 | .9640 | 67° 00' | 1.1694 |
| .4043 | 10 | .3934 | .5948 | .4279 | .6314 | 2.3369 | .3686 | .9194 | .9635 | 50 | 1.1665 |
| .4072 | 20 | .3961 | .5978 | .4314 | .6348 | 2.3183 | .3652 | .9182 | .9629 | 40 | 1.1636 |
| .4102 | 30 | .3987 | .6007 | .4348 | .6383 | 2.2998 | .3617 | .9171 | .9624 | 30 | 1.1606 |
| .4131 | 40 | .4014 | .6036 | .4383 | .6417 | 2.2817 | .3583 | .9159 | .9618 | 20 | 1.1577 |
| .4160 | 50 | .4041 | .6065 | .4417 | .6452 | 2.2637 | .3548 | .9147 | .9613 | 10 | 1.1548 |
| .4189 | 24° 00' | .4067 | .6093 | .4452 | .6486 | 2.2460 | .3514 | .9135 | .9607 | 66° 00' | 1.1519 |
| .4218 | 10 | .4094 | .6121 | .4487 | .6520 | 2.2286 | .3480 | .9124 | .9602 | 50 | 1.1490 |
| .4247 | 20 | .4120 | .6149 | .4522 | .6553 | 2.2113 | .3447 | .9112 | .9596 | 40 | 1.1461 |
| .4276 | 30 | .4147 | .6177 | .4557 | .6587 | 2.1943 | .3413 | .9100 | .9590 | 30 | 1.1432 |
| .4305 | 40 | .4173 | .6205 | .4592 | .6620 | 2.1775 | .3380 | .9088 | .9584 | 20 | 1.1403 |
| .4334 | 50 | .4200 | .6232 | .4628 | .6654 | 2.1609 | .3346 | .9075 | .9579 | 10 | 1.1374 |
| .4363 | 25° 00' | .4226 | .6259 | .4663 | .6687 | 2.1445 | .3313 | .9063 | .9573 | 65° 00' | 1.1345 |
| .4392 | 10 | .4253 | .6286 | .4699 | .6720 | 2.1283 | .3280 | .9051 | .9567 | 50 | 1.1316 |
| .4422 | 20 | .4279 | .6313 | .4734 | .6752 | 2.1123 | .3248 | .9038 | .9561 | 40 | 1.1286 |
| .4451 | 30 | .4305 | .6340 | .4770 | .6785 | 2.0965 | .3215 | .9026 | .9555 | 30 | 1.1257 |
| .4480 | 40 | .4331 | .6366 | .4806 | .6817 | 2.0809 | .3183 | .9013 | .9549 | 20 | 1.1228 |
| .4509 | 50 | .4358 | .6392 | .4841 | .6850 | 2.0655 | .3150 | .9001 | .9543 | 10 | 1.1199 |
| .4538 | 26° 00' | .4384 | .6418 | .4877 | .6882 | 2.0503 | .3118 | .8988 | .9537 | 64° 00' | 1.1170 |
| .4567 | 10 | .4410 | .6444 | .4913 | .6914 | 2.0353 | .3086 | .8975 | .9530 | 50 | 1.1141 |
| .4596 | 20 | .4436 | .6470 | .4950 | .6946 | 2.0204 | .3054 | .8962 | .9524 | 40 | 1.1112 |
| .4625 | 30 | .4462 | .6495 | .4986 | .6977 | 2.0057 | .3023 | .8949 | .9518 | 30 | 1.1083 |
| .4654 | 40 | .4488 | .6521 | .5022 | .7009 | 1.9912 | .2991 | .8936 | .9512 | 20 | 1.1054 |
| .4683 | 50 | .4514 | .6546 | .5059 | .7040 | 1.9768 | .2960 | .8923 | .9505 | 10 | 1.1025 |
| .4712 | 27° 00' | .4540 | .6570 | .5095 | .7072 | 1.9626 | .2928 | .8910 | .9499 | 63° 00' | 1.0996 |
| | | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | DEGREES | RADIANS |
| | | COSINE | | COTANGENT | | TANGENT | | SINE | | | |

[Characteristics of Logarithms omitted — determine by the usual rule from the value]

| RADIANs | DEGREES | SINE | | TANGENT | | COTANGENT | | COSINE | | | |
|---------|---------|--------|-------------------|-----------|-------------------|-----------|-------------------|--------|-------------------|---------|---------|
| | | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | | |
| .4712 | 27° 00' | .4540 | .6570 | .5095 | .7072 | 1.9626 | .2928 | .8910 | .9499 | 63° 00' | 1.0996 |
| .4741 | 10 | .4566 | .6595 | .5132 | .7103 | 1.9486 | .2897 | .8897 | .9492 | 50 | 1.0966 |
| .4771 | 20 | .4592 | .6620 | .5169 | .7134 | 1.9347 | .2866 | .8884 | .9486 | 40 | 1.0937 |
| .4800 | 30 | .4617 | .6644 | .5206 | .7165 | 1.9210 | .2835 | .8870 | .9479 | 30 | 1.0908 |
| .4829 | 40 | .4643 | .6668 | .5243 | .7196 | 1.9074 | .2804 | .8857 | .9473 | 20 | 1.0879 |
| .4858 | 50 | .4669 | .6692 | .5280 | .7226 | 1.8940 | .2774 | .8843 | .9466 | 10 | 1.0850 |
| .4887 | 28° 00' | .4695 | .6716 | .5317 | .7257 | 1.8807 | .2743 | .8829 | .9459 | 62° 00' | 1.0821 |
| .4916 | 10 | .4720 | .6740 | .5354 | .7287 | 1.8676 | .2713 | .8816 | .9453 | 50 | 1.0792 |
| .4945 | 20 | .4746 | .6763 | .5392 | .7317 | 1.8546 | .2683 | .8802 | .9446 | 40 | 1.0763 |
| .4974 | 30 | .4772 | .6787 | .5430 | .7348 | 1.8418 | .2652 | .8788 | .9439 | 30 | 1.0734 |
| .5003 | 40 | .4797 | .6810 | .5467 | .7378 | 1.8291 | .2622 | .8774 | .9432 | 20 | 1.0705 |
| .5032 | 50 | .4823 | .6833 | .5505 | .7408 | 1.8165 | .2592 | .8760 | .9425 | 10 | 1.0676 |
| .5061 | 29° 00' | .4848 | .6856 | .5543 | .7438 | 1.8040 | .2562 | .8746 | .9418 | 61° 00' | 1.0647 |
| .5091 | 10 | .4874 | .6878 | .5581 | .7467 | 1.7917 | .2533 | .8732 | .9411 | 50 | 1.0617 |
| .5120 | 20 | .4899 | .6901 | .5619 | .7497 | 1.7796 | .2503 | .8718 | .9404 | 40 | 1.0588 |
| .5149 | 30 | .4924 | .6923 | .5658 | .7526 | 1.7675 | .2474 | .8704 | .9397 | 30 | 1.0559 |
| .5178 | 40 | .4950 | .6946 | .5696 | .7556 | 1.7556 | .2444 | .8689 | .9390 | 20 | 1.0530 |
| .5207 | 50 | .4975 | .6968 | .5735 | .7585 | 1.7437 | .2415 | .8675 | .9383 | 10 | 1.0501 |
| .5236 | 30° 00' | .5000 | .6990 | .5774 | .7614 | 1.7321 | .2386 | .8660 | .9375 | 60° 00' | 1.0472 |
| .5265 | 10 | .5025 | .7012 | .5812 | .7644 | 1.7205 | .2356 | .8646 | .9368 | 50 | 1.0443 |
| .5294 | 20 | .5050 | .7033 | .5851 | .7673 | 1.7090 | .2327 | .8631 | .9361 | 40 | 1.0414 |
| .5323 | 30 | .5075 | .7055 | .5890 | .7701 | 1.6977 | .2299 | .8616 | .9353 | 30 | 1.0385 |
| .5352 | 40 | .5100 | .7076 | .5930 | .7730 | 1.6864 | .2270 | .8601 | .9346 | 20 | 1.0356 |
| .5381 | 50 | .5125 | .7097 | .5969 | .7759 | 1.6753 | .2241 | .8587 | .9338 | 10 | 1.0327 |
| .5411 | 31° 00' | .5150 | .7118 | .6009 | .7788 | 1.6643 | .2212 | .8572 | .9331 | 59° 00' | 1.0297 |
| .5440 | 10 | .5175 | .7139 | .6048 | .7816 | 1.6534 | .2184 | .8557 | .9323 | 50 | 1.0268 |
| .5469 | 20 | .5200 | .7160 | .6088 | .7845 | 1.6426 | .2155 | .8542 | .9315 | 40 | 1.0239 |
| .5498 | 30 | .5225 | .7181 | .6128 | .7873 | 1.6319 | .2127 | .8526 | .9308 | 30 | 1.0210 |
| .5527 | 40 | .5250 | .7201 | .6168 | .7902 | 1.6212 | .2098 | .8511 | .9300 | 20 | 1.0181 |
| .5556 | 50 | .5275 | .7222 | .6208 | .7930 | 1.6107 | .2070 | .8496 | .9292 | 10 | 1.0152 |
| .5585 | 32° 00' | .5299 | .7242 | .6249 | .7958 | 1.6003 | .2042 | .8480 | .9284 | 58° 00' | 1.0123 |
| .5614 | 10 | .5324 | .7262 | .6289 | .7986 | 1.5900 | .2014 | .8465 | .9276 | 50 | 1.0094 |
| .5643 | 20 | .5348 | .7282 | .6330 | .8014 | 1.5798 | .1986 | .8450 | .9268 | 40 | 1.0065 |
| .5672 | 30 | .5373 | .7302 | .6371 | .8042 | 1.5697 | .1958 | .8434 | .9260 | 30 | 1.0036 |
| .5701 | 40 | .5398 | .7322 | .6412 | .8070 | 1.5597 | .1930 | .8418 | .9252 | 20 | 1.0007 |
| .5730 | 50 | .5422 | .7342 | .6453 | .8097 | 1.5497 | .1903 | .8403 | .9244 | 10 | .9977 |
| .5760 | 33° 00' | .5446 | .7361 | .6494 | .8125 | 1.5399 | .1875 | .8387 | .9236 | 57° 00' | .9948 |
| .5789 | 10 | .5471 | .7380 | .6536 | .8153 | 1.5301 | .1847 | .8371 | .9228 | 50 | .9919 |
| .5818 | 20 | .5495 | .7400 | .6577 | .8180 | 1.5204 | .1820 | .8355 | .9219 | 40 | .9890 |
| .5847 | 30 | .5519 | .7419 | .6619 | .8208 | 1.5108 | .1792 | .8339 | .9211 | 30 | .9861 |
| .5876 | 40 | .5544 | .7438 | .6661 | .8235 | 1.5013 | .1765 | .8323 | .9203 | 20 | .9832 |
| .5905 | 50 | .5568 | .7457 | .6703 | .8263 | 1.4919 | .1737 | .8307 | .9194 | 10 | .9803 |
| .5934 | 34° 00' | .5592 | .7476 | .6745 | .8290 | 1.4826 | .1710 | .8290 | .9186 | 56° 00' | .9774 |
| .5963 | 10 | .5616 | .7494 | .6787 | .8317 | 1.4733 | .1683 | .8274 | .9177 | 50 | .9745 |
| .5992 | 20 | .5640 | .7513 | .6830 | .8344 | 1.4641 | .1656 | .8258 | .9169 | 40 | .9716 |
| .6021 | 30 | .5664 | .7531 | .6873 | .8371 | 1.4550 | .1629 | .8241 | .9160 | 30 | .9687 |
| .6050 | 40 | .5688 | .7550 | .6916 | .8398 | 1.4460 | .1602 | .8225 | .9151 | 20 | .9657 |
| .6080 | 50 | .5712 | .7568 | .6959 | .8425 | 1.4370 | .1575 | .8208 | .9142 | 10 | .9628 |
| .6109 | 35° 00' | .5736 | .7586 | .7002 | .8452 | 1.4281 | .1548 | .8192 | .9134 | 55° 00' | .9599 |
| .6138 | 10 | .5760 | .7604 | .7046 | .8479 | 1.4193 | .1521 | .8175 | .9125 | 50 | .9570 |
| .6167 | 20 | .5783 | .7622 | .7089 | .8506 | 1.4106 | .1494 | .8158 | .9116 | 40 | .9541 |
| .6196 | 30 | .5807 | .7640 | .7133 | .8533 | 1.4019 | .1467 | .8141 | .9107 | 30 | .9512 |
| .6225 | 40 | .5831 | .7657 | .7177 | .8559 | 1.3934 | .1441 | .8124 | .9098 | 20 | .9483 |
| .6254 | 50 | .5854 | .7675 | .7221 | .8586 | 1.3848 | .1414 | .8107 | .9089 | 10 | .9454 |
| .6283 | 36° 00' | .5878 | .7692 | .7265 | .8613 | 1.3764 | .1387 | .8090 | .9080 | 54° 00' | .9425 |
| | | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | DEGREES | RADIANS |
| | | COSINE | | COTANGENT | | TANGENT | | SINE | | | |

[Characteristics of Logarithms omitted — determine by the usual rule from the value]

| RADIANs | DEGREES | SINE | | TANGENT | | COTANGENT | | COSINE | | | |
|---------|---------|--------|-------------------|-----------|-------------------|-----------|-------------------|--------|-------------------|---------|---------|
| | | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | | |
| .6283 | 36° 00' | .5878 | .7692 | .7265 | .8613 | 1.3764 | .1387 | .8090 | .9080 | 54° 00' | .9425 |
| .6312 | 10 | .5901 | .7710 | .7310 | .8639 | 1.3680 | .1361 | .8073 | .9070 | 50 | .9396 |
| .6341 | 20 | .5925 | .7727 | .7355 | .8666 | 1.3597 | .1334 | .8056 | .9061 | 40 | .9367 |
| .6370 | 30 | .5948 | .7744 | .7400 | .8692 | 1.3514 | .1308 | .8039 | .9052 | 30 | .9338 |
| .6400 | 40 | .5972 | .7761 | .7445 | .8718 | 1.3432 | .1282 | .8021 | .9042 | 20 | .9308 |
| .6429 | 50 | .5995 | .7778 | .7490 | .8745 | 1.3351 | .1255 | .8004 | .9033 | 10 | .9279 |
| .6458 | 37° 00' | .6018 | .7795 | .7536 | .8771 | 1.3270 | .1229 | .7986 | .9023 | 53° 00' | .9250 |
| .6487 | 10 | .6041 | .7811 | .7581 | .8797 | 1.3190 | .1203 | .7969 | .9014 | 50 | .9221 |
| .6516 | 20 | .6065 | .7828 | .7627 | .8824 | 1.3111 | .1176 | .7951 | .9004 | 40 | .9192 |
| .6545 | 30 | .6088 | .7844 | .7673 | .8850 | 1.3032 | .1150 | .7934 | .8995 | 30 | .9163 |
| .6574 | 40 | .6111 | .7861 | .7720 | .8876 | 1.2954 | .1124 | .7916 | .8985 | 20 | .9134 |
| .6603 | 50 | .6134 | .7877 | .7766 | .8902 | 1.2876 | .1098 | .7898 | .8975 | 10 | .9105 |
| .6632 | 38° 00' | .6157 | .7893 | .7813 | .8928 | 1.2799 | .1072 | .7880 | .8965 | 52° 00' | .9076 |
| .6661 | 10 | .6180 | .7910 | .7860 | .8954 | 1.2723 | .1046 | .7862 | .8955 | 50 | .9047 |
| .6690 | 20 | .6202 | .7926 | .7907 | .8980 | 1.2647 | .1020 | .7844 | .8945 | 40 | .9018 |
| .6720 | 30 | .6225 | .7941 | .7954 | .9006 | 1.2572 | .0994 | .7826 | .8935 | 30 | .8988 |
| .6749 | 40 | .6248 | .7957 | .8002 | .9032 | 1.2497 | .0968 | .7808 | .8925 | 20 | .8959 |
| .6778 | 50 | .6271 | .7973 | .8050 | .9058 | 1.2423 | .0942 | .7790 | .8915 | 10 | .8930 |
| .6807 | 39° 00' | .6293 | .7989 | .8098 | .9084 | 1.2349 | .0916 | .7771 | .8905 | 51° 00' | .8901 |
| .6836 | 10 | .6316 | .8004 | .8146 | .9110 | 1.2276 | .0890 | .7753 | .8895 | 50 | .8872 |
| .6865 | 20 | .6338 | .8020 | .8195 | .9135 | 1.2203 | .0865 | .7735 | .8884 | 40 | .8843 |
| .6894 | 30 | .6361 | .8035 | .8243 | .9161 | 1.2131 | .0839 | .7716 | .8874 | 30 | .8814 |
| .6923 | 40 | .6383 | .8050 | .8292 | .9187 | 1.2059 | .0813 | .7698 | .8864 | 20 | .8785 |
| .6952 | 50 | .6406 | .8066 | .8342 | .9212 | 1.1988 | .0788 | .7679 | .8853 | 10 | .8756 |
| .6981 | 40° 00' | .6428 | .8081 | .8391 | .9238 | 1.1918 | .0762 | .7660 | .8843 | 50° 00' | .8727 |
| .7010 | 10 | .6450 | .8096 | .8441 | .9264 | 1.1847 | .0736 | .7642 | .8832 | 50 | .8698 |
| .7039 | 20 | .6472 | .8111 | .8491 | .9289 | 1.1778 | .0711 | .7623 | .8821 | 40 | .8668 |
| .7069 | 30 | .6494 | .8125 | .8541 | .9315 | 1.1708 | .0685 | .7604 | .8810 | 30 | .8639 |
| .7098 | 40 | .6517 | .8140 | .8591 | .9341 | 1.1640 | .0659 | .7585 | .8800 | 20 | .8610 |
| .7127 | 50 | .6539 | .8155 | .8642 | .9366 | 1.1571 | .0634 | .7566 | .8789 | 10 | .8581 |
| .7156 | 41° 00' | .6561 | .8169 | .8693 | .9392 | 1.1504 | .0608 | .7547 | .8778 | 49° 00' | .8552 |
| .7185 | 10 | .6583 | .8184 | .8744 | .9417 | 1.1436 | .0583 | .7528 | .8767 | 50 | .8523 |
| .7214 | 20 | .6604 | .8198 | .8796 | .9443 | 1.1369 | .0557 | .7509 | .8756 | 40 | .8494 |
| .7243 | 30 | .6626 | .8213 | .8847 | .9468 | 1.1303 | .0532 | .7490 | .8745 | 30 | .8465 |
| .7272 | 40 | .6648 | .8227 | .8899 | .9494 | 1.1237 | .0506 | .7470 | .8733 | 20 | .8436 |
| .7301 | 50 | .6670 | .8241 | .8952 | .9519 | 1.1171 | .0481 | .7451 | .8722 | 10 | .8407 |
| .7330 | 42° 00' | .6691 | .8255 | .9004 | .9544 | 1.1106 | .0456 | .7431 | .8711 | 48° 00' | .8378 |
| .7359 | 10 | .6713 | .8269 | .9057 | .9570 | 1.1041 | .0430 | .7412 | .8699 | 50 | .8348 |
| .7389 | 20 | .6734 | .8283 | .9110 | .9595 | 1.0977 | .0405 | .7392 | .8688 | 40 | .8319 |
| .7418 | 30 | .6756 | .8297 | .9163 | .9621 | 1.0913 | .0379 | .7373 | .8676 | 30 | .8290 |
| .7447 | 40 | .6777 | .8311 | .9217 | .9646 | 1.0850 | .0354 | .7353 | .8665 | 20 | .8261 |
| .7476 | 50 | .6799 | .8324 | .9271 | .9671 | 1.0786 | .0329 | .7333 | .8653 | 10 | .8232 |
| .7505 | 43° 00' | .6820 | .8338 | .9325 | .9697 | 1.0724 | .0303 | .7314 | .8641 | 47° 00' | .8203 |
| .7534 | 10 | .6841 | .8351 | .9380 | .9722 | 1.0661 | .0278 | .7294 | .8629 | 50 | .8174 |
| .7563 | 20 | .6862 | .8365 | .9435 | .9747 | 1.0599 | .0253 | .7274 | .8618 | 40 | .8145 |
| .7592 | 30 | .6884 | .8378 | .9490 | .9772 | 1.0538 | .0228 | .7254 | .8606 | 30 | .8116 |
| .7621 | 40 | .6905 | .8391 | .9545 | .9798 | 1.0477 | .0202 | .7234 | .8594 | 20 | .8087 |
| .7650 | 50 | .6926 | .8405 | .9601 | .9823 | 1.0416 | .0177 | .7214 | .8582 | 10 | .8058 |
| .7679 | 44° 00' | .6947 | .8418 | .9657 | .9848 | 1.0355 | .0152 | .7193 | .8569 | 46° 00' | .8029 |
| .7709 | 10 | .6967 | .8431 | .9713 | .9874 | 1.0295 | .0126 | .7173 | .8557 | 50 | .7999 |
| .7738 | 20 | .6988 | .8444 | .9770 | .9899 | 1.0235 | .0101 | .7153 | .8545 | 40 | .7970 |
| .7767 | 30 | .7009 | .8457 | .9827 | .9924 | 1.0176 | .0076 | .7133 | .8532 | 30 | .7941 |
| .7796 | 40 | .7030 | .8469 | .9884 | .9949 | 1.0117 | .0051 | .7112 | .8520 | 20 | .7912 |
| .7825 | 50 | .7050 | .8482 | .9942 | .9975 | 1.0058 | .0025 | .7092 | .8507 | 10 | .7883 |
| .7854 | 45° 00' | .7071 | .8495 | 1.0000 | .0000 | 1.0000 | .0000 | .7071 | .8495 | 45° 00' | .7854 |
| | | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | Value | Log ₁₀ | DEGREES | RADIANS |
| | | COSINE | | COTANGENT | | TANGENT | | SINE | | | |





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